SOLUTIONS FOR CHAPTER 1

Each end-of-chapter question in the Solutions Manual is tagged to correspond with AACSB, AICPA and CISA standards, allowing professors to more easily manage the task of reporting outcomes to these professional and accrediting bodies. Please see the corresponding spreadsheet file for the tagging information.

Discussion Questions

DQ 1-1   *"I just want to be a good accountant, technology does not interest me."*
        Comment on this statement, considering today's technology environment.

ANS.   Possible points that could be made:

a. Distinguish between an accountant and a bookkeeper. An understanding of accounting software and related technology would enable one to advance beyond entry-level positions.

b. Without knowledge of computer technology, an accountant can be a bookkeeper/accountant for a small firm that does not use computers *at all*. (With the ubiquitous nature of computers, this has become a weak argument, at best.) More realistically, with the low cost of accounting software, only very select organizations may not benefit from automation. Examples of those organizations would include businesses that sell a low volume of unique products.

c. Because the ability to access data, present data for decision making, audit an accounting system, and so on are all affected by computer technology, the career path for an accountant will be severely limited by a lack of knowledge of computer technology.

d. The public accounting profession is competitive and the effective use of technology helps maintain a competitive edge. For example, an auditor can usually complete an audit engagement in less time—and be surer of the findings—than he/she would be without using technology in the audit. This will permit the auditor to charge less for the work and to obtain more clients. And, if the auditor's findings can be supported, he/she will be less likely to experience legal ramifications (e.g., from the SEC, from stockholders, and so on).

e. The Sarbanes-Oxley Act of 2002 requires that the CFO (and CEO) sign the financial statements and attest to their accuracy, that companies notify the Securities and Exchange Commission of material events within two days, and that companies file their earnings statements within 35 days of the end of a quarter. All of these requirements have implications for the organization's accounting information system and the ability of the CFO to understand and monitor its operation.

DQ 1-2   *Examine Figure 1.1. Based on any work experience you have had, with which elements are you least comfortable? With which are you most comfortable? Discuss your answers.*

ANS.   See DQ 1-3.

DQ 1-3   *Examine Figure 1.1. Based on your college education to date, with which elements are you comfortable? With which are you least comfortable? Discuss your answers.*

ANS.   The point of both of these questions (DQ 1-2 and DQ 1-3) is to get the students to see the breadth of coverage of the AIS course and to see how the course will help fill in gaps in their background that they may have. Also, the figure and the discussion should help the student recognize the practical and academic background that needs to be brought forward into this course.

For example, students with practical experience may have a good background in business operations, information processing, and management decision making. Students with computer coursework or practical experience may have background in databases and technology. If the students have completed intermediate accounting, accounting principles and reporting may be familiar.

DQ 1-4   *Why might you have more trouble assessing the success of a not-for-profit organization or federal government entitlement program than you would have judging the success of a business organization?*

ANS.   The purpose of this question is to get the students to understand the relationship of "success" and "accomplishing specific objectives."

The issues are similar for any organization. After we move beyond generally accepted, easily measured objectives, we will have difficulty determining effectiveness. We must establish objectives and criteria or indicators that can measure our success in achieving the objectives.

A business organization either explicitly or implicitly establishes objectives such as market share, profits, and earnings per share. Measuring achievement of these objectives is fairly straightforward.

The objectives for a federal government entitlement program or not-for-profit (NFP) organization are often subjective and may not be acknowledged by all parties. And measures of success may be elusive. For example, are programs for the NFP successful when the number of people assisted is high or when the number is low, or does it depend on the program? The Red Cross helps with disaster relief on a large scale as well as operating smaller programs such as a local blood drive. Or do we measure performance on the basis of program costs per person assisted? Without an acknowledged set of objectives and measurable success criteria, we have difficulty *knowing* we have been effective.

For non-private (governmental) organizations there is some guidance available to directly address this issue. The Government Performance and Results Act of 1993 (P.L. 103-62) was enacted to "provide for the establishment of strategic planning and performance measurement in the U.S. Federal Government." To comply with this act, the managers of all agencies of the federal government must prepare five-year strategic plans setting forth the goals and objectives that measure mission achievement and the approaches that will be used in achieving those goals. Annual plans must include performance indicators and a statement of how measured values will be verified.

A business, or any nongovernmental organization, may take on broader social responsibilities and establish related objectives. These objectives might include those for environmental impact, treatment of employees, relations with unions, and impact on the surrounding community. Measurement of achievement of such objectives can be problematic.

DQ 1-5   *Why must you have knowledge of a system's objectives to study that system?*

ANS.   With this question, we try to establish the connection between a system's purpose and its procedures.

Understanding and evaluating a system's procedures must be studied in light of the system's objectives. For example, in an accounts receivable process, we periodically send customer statements and follow up on delinquent receivables found in those statements. Why? To ensure timely receipt of all outstanding receivables (i.e., an accounts receivable process objective).

DQ 1-6   *Do you think your accounting education is preparing you effectively to practice accounting? Why or why not? Discuss, from both a short-term (i.e., immediately on graduation) and a long-term (i.e., 5 to 10 years after beginning your career) standpoint.*

ANS.   This question is a follow-up to Discussion Questions 1-2 and 1-3. The purpose is to see that some of the skills and areas of study in Figure 1.1 are short-term in focus and some are long-term. For example, accounting and auditing principles, business operations, and events processing are necessary entry-level skills. Management decision making, communications, and systems development and operation may be longer-term skills.

DQ 1-7   *Examine Figure 1.9. Discuss the importance of horizontal information flows and vertical information flows to the daily operations of a manufacturing entity.*

ANS.   An information system captures and records data as business operations take place. This business event processing or horizontal information flow is the very basis of the AIS. From such horizontal flows, manufacturing entities would communicate between operations and inventory functions to ensure proper levels for current production. Similarly, operations would communicate with sales to ensure that needed products are being produced. The flows may take many forms, such as electronic inquiries or paper reports.

Vertical information flows, derived from the horizontal flows, provide managers with information with which to plan, manage, and control operations. Manufacturing would provide data to be accumulated/summarized and used in vertical flows. The vertical flows then may be used in strategic and/or tactical decisions such as plant expansions or new product decisions. The accountant participates in the processes (summarize, calculate, filter, consolidate, etc.) necessary to produce the vertical flows.

DQ 1-8   *Examine Figure 1.9. Discuss how vertical information flows may be important to the executive director of an organization that is a public charity.*

ANS.   To provide direction to a public charity, the executive director needs to know vertically accumulated/aggregated information to provide guidance and accountability for the charity. The director would need to know information such as donor categories for contributions, total donations, total restricted donations, etc. Such information may also be required when attending board meetings and meetings with other constituents such as government agencies. Government agencies may have specific requirements at a considerable level of detail. Generally, most information from a public charity is publicly disclosed and accessible to the news media. The executive director needs to be apprised of anything that may be made public about which there may be questions.

DQ 1-9   *Give several examples not mentioned in the chapter of potential conflicts between pairs of information qualities.*

ANS.   *Note:* Pairs discussed in the text include completeness and timeliness, and accuracy and timeliness. This question is open-ended and presents almost unlimited opportunities to analyze the "qualities" of information and to explain them in context rather than merely regurgitating definitions.

Tradeoff	Example
Timeliness versus accuracy and completeness	Timeliness (e.g., accelerating the frequency with which reports are prepared) compromises several other qualities. For example, shortening the delay between the actual shipment and reporting the data related to the shipment produces risks that the reported sales will be inaccurate and/or incomplete.
Validity versus timeliness	The time spent to edit information to ensure its validity may sacrifice the timeliness of the information. For example, we may review all inventory receipts to ensure that all reported receipts represent goods actually received. When the edits are completed, the information may no longer be needed.
Relevance versus accuracy	Unless data is accurate, it may not be relevant for certain decisions. For example, sales recorded in the sales journal must be accurate as to quantity and price. On the other hand, sales reported for sales analysis need not be so accurate.

DQ 1-10   *Regarding financial reporting, which quality of information do you think should be superior to all other qualities? Discuss your answer.*

ANS.   In *Statement of Financial Accounting Concepts No. 2: Qualitative Characteristics of Accounting Information,* the Financial Accounting Standards Board (FASB) elevated *understandability* to the status of being the overall goal of financial reporting. According to Concepts Statement No. 2, financial reporting procedures are to be chosen on the basis of their capability to make financial information understandable to the decision maker.

Certainly, the superiority of other qualities might be discussed. For example, in Figure 1.6 in this text, we elevated *decision usefulness* to a position superior to understandability. We did so because we wanted to present a hierarchy germane to all decisions and decision makers and were not as concerned, as was the FASB, that financial information must be understood by a variety of users.

DQ 1-11   *Comparing relevance and reliability, which information quality is most important? Support your answer with examples.*

ANS.   *Note:* To answer this question, first review the definitions given in the chapter to make sure to use the terms as they are defined here and not as they might be used in general practice. *Relevance* is defined as "information capable of making a difference in a decision-making situation by reducing uncertainty or increasing knowledge for that particular decision." *Reliability* is defined (in Exhibit 1.2) as "relates to the provision of appropriate information for management to operate the entity and for management to exercise its financial and compliance reporting responsibilities."

First, we can say that relevance addresses a decision to be made in terms of reducing uncertainty (or increasing knowledge). The uncertainty being reduced must be relative to the knowledge already possessed by a *particular* decision maker for a *particular* decision. Reliability does not refer to specific decisions (or

decision makers). So, for a specific decision and decision maker, relevance is most important.

Second, we can say that reliability refers to some externally imposed constraints (e.g., regulatory bodies, laws). For example, organizations with stock publicly traded in the United States must adhere to the rules for financial reporting prescribed by the Securities and Exchange Commission and the Financial Accounting Standards Board. Generally Accepted Accounting Principles (GAAP) would, for example, require that historical cost be used to report the dollar value of assets held by an entity. Historical cost information may not be "relevant" for some decisions, but it is "reliable."

DQ 1-12   *Describe two structured decisions and two unstructured decisions. Discuss the relative amount of structure in each decision.*

ANS.   *Structured decisions:* a. Approving credit. b. When and how much inventory to reorder (an example from the chapter). c. Capital budgeting. Decision type *a* probably occurs more often than *b*, and *b* more often than *c*, making decision type *a* more repetitive and probably more structured than *b* (and *b* more than *c*). In addition, the criteria and data used for decision type *a* are probably more certain than they are for *b* (and *b* more certain than *c*).

Unstructured decisions: a. Acquire or merge with another company. b. Select a new product or line of business. c. Select a marketing campaign. As with our list for structured decisions, these types of decisions occur with differing frequency in a typical business. For example, a typical business selects a marketing campaign more frequently than it selects a new product or line of business or merges with another company. And the criteria and data used to decide if and how to acquire another company are probably the most uncertain, which makes that type of decision the most unstructured.

DQ 1-13   *"To be of any value, a modern information process must assist all levels of management." Discuss.*

ANS.   This question addresses the value of an information process. An information process can be of value at each and every level in the organization by providing information useful in making decisions (see Figure 1.6). As the information process provides information possessing qualities useful at higher levels in the organization, it acquires a greater value. However, an information process possesses value by simply monitoring business operations through collecting and recording business events.

Short Problems

SP 1-1 ANS

1. A *Note:* Every order is recorded (so completeness is achieved) but every order is not recorded correctly (so accuracy is not achieved).

2. C, D *Note:* Allan is attempting to accomplish timeliness but is working with a report that lacks relevance because it is out of date.

3. A *Note:* Data on some of the picking tickets is incorrect.

4. E *Note:* Without a customer order a shipment is not authorized and not genuine.

5. B *Note:* Not all shipments are entered.

SP 1-2 ANS   Efficiency of a retailer can be reduced if any of the listed qualities are missing. Time can be lost through searching for nonexistent inventory when the system information is not updated in a timely manner, completely entered, or inaccurately entered. If these qualities are missing, excessive quantities may be stocked, yielding additional costs (such as warehouse and insurance) associated with the excess quantities.

Effectiveness of a retailer can be increased (or decreased) by the level of accuracy, completeness, or timeliness of inventory information. If the information is not updated in a timely manner, there may be stock-outs and lost sales. Incomplete information can cause customers to go elsewhere, if the system indicates insufficient inventory for the customer need, when in reality, receipts were not entered, meaning the information is not complete. Inaccurate information, such as incorrect pricing, can contribute to lost profits for the company. Each of these items can reduce the effectiveness of an organization's ability to provide products to a customer at a profit.

Problems

P 1-1 ANS.   Regarding the quote by Robert K. Elliott, the following points could be made:

- As discussed in this chapter, identifying relevant information requires understanding the decision maker and the decision being made.

- Modeling systems and designing systems to obtain needed information is consistent with the role of designer of information systems discussed in this chapter.

- Advising on controls and security and ensuring information reliability are consistent with the role of the accountant as an evaluator of information systems, as discussed in this chapter.

- This chapter makes the point that the accountant must understand a broad context of organizational issues. The portion of this quote that talks about

deploying knowledge includes a number of those contexts, such as strategic planning, marketing, and daily operations.

- The chapter does not disagree with the quote.

- We do think that accountants must provide these services or be marginalized by those who will. And, as discussed in this chapter, the accountant is uniquely positioned and qualified to provide these services. Students may have a variety of opinions here.

- We might also mention that a potential conflict of interest could arise if any accountant (or firm) performs any design or consulting work and also performs attestation for the same client. In fact, SOX Section 201 prohibits a CPA firm that audits a public company from engaging in certain nonaudit services with the same client.

P 1-2 ANS.   First, to be qualified to perform such services, the accountant must be familiar with the nonfinancial information being reviewed. To perform an audit of financial statements, for example, the accountant must be familiar with financial accounting theory and practice. To be qualified to perform assurance services, an accountant must be familiar with the subject matter of the engagement. Subject areas may include risk assessment, strategic planning, quality control, process improvement, and customer and product productivity.

Second, to perform an audit, an accountant must be familiar with auditing standards, principles, and practices. Assurances services, on the other hand, may be governed by different standards and will require different skills than those required for an audit. Certainly, the assurance services practitioner will depend more on communication and teamwork skills than ever before. Also, additional evidence gathering, analysis, and information technology skills will be required. Examples of such skills include statistical analysis, market research, and facility with database management systems

Finally, performing these services can provide an interesting variety of work engagements for the accountant as well as additional sources of revenue.

P 1-3 ANS.   For Sarbanes-Oxley–related work within the accountant's own organization, answers should address documenting systems, performing risk assessment, evaluating internal controls, and so on. For work outside the accountant's organization (e.g., for clients), answers should address the assistance given to prepare clients for the Section 404 review. Accountants can do such work for their audit clients without violating the requirement that they not undertake consulting for their audit clients, provided they limit the work to documentation and risk assessment. An accountant can help only a *nonaudit* client design a system of internal controls to correct control weaknesses. Finally, the auditor will be reviewing the management assertion required under Section 404 during the annual audit. For this work, they will be reading documentation, performing risk assessment, and entering an opinion on the functioning of the system of control.

P 1-4 ANS.

Note: This solution assumes that the daily and monthly reports are prepared by the central information services function, are provided by software developed and tested by systems development personnel, and are provided to a number of users. It is useful to know which, if any, of the outputs contains historical information and to know the purpose (e.g., decision) for each output. Before going over this problem, an instructor may want to test these assumptions with the class.

Quality	Inquiry	Daily	Monthly
Understandability	User can control format.	User may not be able to control format.	User may not be able to control format.
Relevance	Information may be tailored for the user.	Information may be intended for a number of users.	Information may be intended for a number of users.
Timeliness	Most timely.	Second most timely.	May not be timely for some decisions.
Predictive value/feedback value	User may be able to modify each report to perform "what-if" analysis and to incorporate his/her own earlier expectations.	May not provide for "what-if" analysis and may not incorporate the decision maker's personal prior expectations.	May not provide for "what-if" analysis and may not incorporate the decision maker's personal prior expectations.
Neutrality/freedom from bias	A single user's assessment may not lead to neutral information.	Central control and preparation for multiple users may lead to increased neutrality.	Central control and preparation for multiple users may lead to increased neutrality.
Comparability	Because one user has prepared this information for himself/herself and with little, if any, central control, the information may not be comparable to other information.	Information centrally controlled and provided to a number of users may be comparable to other information.	Information centrally controlled and provided to a number of users may be comparable to other information.
Consistency	Because the manager can formulate each query differently, consistency is suspect.	Centrally controlled reports that have been tested, and change little over time, should provide consistent information.	Centrally controlled reports that have been tested, and change little over time, should provide consistent information.
Validity	Information may not have been checked for validity.	Controls may increase validity of this information.	Controls may increase validity of this information.
Accuracy	Information may not have been checked for accuracy.	Controls may increase accuracy of this information.	Controls may increase accuracy of this information.
Completeness	Least complete.	Average completeness.	Most complete.

P 1-5 ANS.	Every student's answer will likely be different. Many job listing sources are available. Students may use general sites such as www.monster.com or specific sites for accountants such as www.accounting.com. Governmental sites and sites for specific companies are also available. Many listings will have specific job requirements. The student should list the job requirements, his/her current abilities, and the steps to bridge any gaps. The steps may include college courses, technical courses, certifications, or any other applicable learning experience.

P 1-6 ANS.	A wide range of answers are likely, based on the firm interviewed. Most professional organizations have information on what is expected in general (see IFAC#11 or www.aicpa.org). Individual firms may have slightly different expectations. Small firms may have lower (or higher) expectations based on their client base and services offered. Larger firms may have different expectations based on their training programs (possibly lower expectations if they intend to train employees on firm methods and procedures). The expectations may differ significantly based on the level of job discussed.

P 1-7 ANS.	This solution will vary based on the current listing of the "Top Ten Technologies."

P 1-8 ANS.	This solution will vary based on the current listing of the "Top Ten Technologies."

Bentley University[1] Accounting Information Systems Term Project

Prepared to Accompany:
Accounting Information Systems, 9e
Ulric J. Gelinas, Jr., Richard B. Dull, and Patrick R. Wheeler

Objectives: provide Bentley University students an opportunity to:
- Examine an actual business process in operation[2].
- Document it using a narrative description, table of entities and activities, context diagram and systems flowchart.
- Analyze measures that are in place to control the process and its data.
- Recommend changes to the process, such as additional controls, to improve operational and information process effectiveness.

Overview
Your team will learn about and propose changes to the accounting aspects of a business process (e.g. order entry, billing, accounts receivable, purchasing, accounts payable, cash disbursements, general ledger). Your first tasks are to find a willing organization, identify a company contact, and determine which process/system you will examine. You **should not** choose a company where a team member is currently employed. However, a team can conduct their project in the organization of a student who is not on the team (i.e., teams may swap organizations). Once a client site is identified, you will plan your work as a team and prepare Project Part 1.

Note:
ALL team members need to visit the client site <u>together</u> *at least once. Visits to your client site must be made before part 1, for part 2 to get business process descriptions, for part 3 to get controls information, and at the end to deliver the report and to get feedback*.

You next gather information about the client organization. You should conduct *both* a manual and an on-line literature search to find recent, relevant articles in newspapers, trade journals, general business periodicals, etc., as well as the client's annual report and other documents that describe its products and organization. You should also examine the client's Web site (if they have one) and other Web sites (e.g., an industry association). This review will help you understand the operational and strategic challenges that affect how accountants and managers in the organization use the client's business process. On an ongoing basis, you should also consult established publications, such as *The Wall Street Journal, Business Week*, etc., and business-related Web sites in case a relevant current article discusses your client or its industry.

After your literature review, you will conduct interviews at the client site to learn about the client business process and how it is used. In Project Part 2 you will you will turn in a document that describes the client company, its mission and business objectives, and the relationship of the business process to the mission and objectives (Part 2.1), the business process that you are studying (Part 2.2), and prepare a system narrative, context diagram, table of entities and activities and systems flowchart (Parts 2.3 through 2.6).

You will next identify, describe and analyze the pervasive and business process controls related to this business process. Then you will formulate recommendations to improve the efficiency and effectiveness of the business process. The latter may include controls to ensure the integrity, security and availability of process-related information. In Project Part 3 you will draw on material from this assessment to share with your classmates in a 15-minute team presentation.

In Part 4 you will revise Parts 2.3 through 2.6, complete your report, present it to your client, and get their feedback.

Collaborative learning is emphasized in this project. Your individual efforts and skills should complement other members of your team. The final product should be better than the output of a single individual! You are encouraged to seek your

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[1] This project was prepared by Ulric J. (Joe) Gelinas, Jr., Emeritus Professor at Bentley University to accompany *Accounting Information Systems, 9e*, Ulric J. Gelinas, Jr., Richard B. Dull, and Patrick R. Wheeler. The project has been used for over 25 years at Bentley University and the materials contained herein benefit from the contributions of the many faculty who have taught the Accounting Information Systems course over those years.

[2] We use the term business process to refer to the management, operations, and information systems. For this course we are particularly interested in the accounting information system.

instructor's advice on each part of the project before you turn it in for a grade. Although your instructor will not "pre-grade" items (that is your responsibility as a team), he or she will be happy to review drafts and answer specific questions that you raise about them, provided that each question clearly demonstrates that the team has attempted its resolution prior to seeking instructor input.

In every one of the deliverables described above, you will be graded both on content (what you say) and form (how you say it). Grammatical and spelling errors will reduce your grade, as will overly redundant or unclear prose. Your instructor will also assess whether you have a) included every item assigned, b) provided an introduction and conclusion to every section of every deliverable, c) organized your thoughts so as to emphasize key points, and d) made appropriate use of relevant evidence (such as interview data or articles that you uncover in a literature review). The overall difficulty of the project and the appearance of the deliverable will be considered in grading each hand-in. Detailed project deliverables are described next.

Part 1: Project Proposal (10% of Project grade)

As soon as possible your team needs to identify the organization with which you will conduct your project. One or more (or all) members of the team should have a preliminary discussion with the primary contact, preferably on site at the company. At that meeting you should obtain their agreement to participate in the project, agree on the process to be studied, and get the agreement form signed. Be prepared to tell the client what you might need to know and when.

Then, with knowledge of the company and an idea about the business process that you will study, you should prepare a draft of the questions with which you would conduct your initial interview or interviews. These questions will be used for the in-class interview workshop. They will not be handed in at the workshop but will serve as the basis for part 1.2 of your project.

A good proposal explains the project scope: specific steps that your team will take to gather, analyze and report the information; team member roles and responsibilities (for the tasks comprising Project Parts 2 through 4); timeline for deliverables; mechanisms for team communication and coordination and for review and quality control; what tasks you will need the client to perform, and specific benefits that the client will derive from the project. It will not contain grammatical or spelling errors, and it will be written clearly and concisely.

You will not need to give this proposal to the client but you should write it as if you will. For example, the tone of part 1.1 should be appropriate for the client. You should also describe in part 1.1 when you will need to for them to be available (before parts 2 and 3 are due and to give feedback on the final report). Part 1.2 should describe the types of information that you will need and from whom you will need it. Part 1.3 is for your own project planning and management. You might summarize the important elements in parts 1.1 and 1.2 and give them to your client so that they know what you will want to know and when you will want to know it.

Note that successful completion of the following activities is necessary for a well-managed project:

Define: Identify project goals and objectives
Plan: Identify and sequence project activities
Organize: Assign work packages (some to individuals, some to sub-groups, and some to the entire team)
Control: Establish status reports and a mechanism to monitor progress against scheduled deliverables
Close: Prepare the report, obtain client acceptance
Hand-in: Hand-in required deliverable

> *At the start of class* (NOTE: The print queues are always backed up just before class) on the scheduled due date, hand-in your project proposal. Each sub-section (1.1, 1.2, etc.) should be clearly labeled. Start each sub-section on a separate page. Include **computer-generated** page numbers (be careful, the default for Word is no page numbers) and a cover page that includes your team number, team member names, and the name of the client organization. Suggested page counts below are for single-spaced (double space between paragraphs), 12-point font, 1 inch margins all around (again, be careful, Word does not default to 1 inch margins). The reports should appear to be from a unified team. For example, each page should evidence the same style and all exhibits should be included within the Word document. To accomplish this, SmartDraw figures must be cut and pasted into Word. If you use the trial and student versions of SmartDraw, you must open and save using the VLAB copy so that you remove the "Trial…" watermarks. **These format requirements apply to all project hand-ins. Points will be taken off for not complying with any of these requirements.**

1.1 Scope and Purpose (1 page): Describe the purpose of your project in *client-centered* terms (NOT "to fulfill course requirements"). State the specific business process you will examine (e.g. order entry, billing, accounts receivable, purchasing, accounts payable, cash disbursements, general ledger). Again, you will want to emphasize the accounting aspects of the business process. Describe what you expect of the client (in time and information), what you will deliver to them, and how they will benefit from your work. Include a brief statement of who the client is and what they do.

1.2 Planned use of company sources (1-2 pages): Provide the names and titles of individuals you plan to interview, and questions you expect to ask, organized by topics/issues. See the handout on "Conducting Interviews for AIS Projects" on the course Blackboard Web site for guidance. However, the questions for this deliverable need not be as detailed. Rather, this is intended to let the client know the kinds of information that you will need and from whom you will need it. You want to learn (for project Part 2) the mission and business objectives of the organization, problems that they may have competing in their industry, the role that the subject business process plays in achieving the business objectives and in achieving competitive advantage. Identify relevant sources of information about your client organization (e.g., annual report, web site, trade journal articles).

1.3 Work Plan (1-2 pages): Develop a clear understanding of how each member will contribute to the work of the group, communicate with one another, and ensure a quality product throughout the entire project. Present a feasible and detailed schedule of work deliverables and deadlines for all of the tasks comprising parts 2 through 4 (below). Describe specific mechanisms that will ensure that a) the team does not rely excessively on any one individual, b) controversial issues receive adequate discussion of appropriate points of view, c) ongoing work is appropriately reviewed and revised well ahead of due dates, and d) the collective efforts of the team yield a better outcome than individuals working alone. Mechanisms for team communication and coordination should be specific and unambiguous (e.g. all members agree to check their e-mail three times daily; use of a telephone calling list, etc.). Mechanisms for analysis, review and quality control should also be specific and unambiguous. Include mechanisms to ensure that team members coordinate across sections of each part of each deliverable.

1.4 Term Project Client Agreement Form, signed by your primary contact person (download form from your course Blackboard Web site). It might be easiest to demonstrate your client's approval by asking your client to e-mail the project agreement to your instructor. Or, you could fax or snail-mail a signed copy to your instructor. (Since this page might be handed-in separately, the page numbering requirement does not apply to this page.)

Part 2: Business Process Documentation and Analysis (30% of project grade)

A visit to the company, preferably by all members of the team, will be required to gather the information for this part of the project. The questions that you have developed for project Part 1.2 will be used for this interview/visit. Do not begin your interviewing until AFTER you have a graded Part 1 has been returned to you as it may contain suggestions for improving your interview questions.

At the start of class on the scheduled due date, submit the items below. See project Part 1 for hand-in requirements.

2.1 (1-2 pp). *Company Description*: Describe the products/services sold by the client. Include an organization chart showing major reporting relationships. (NOTE: When you include any exhibits they must be labeled and they must be referred to in your report. For example, "Exhibit 1, the organization chart, depicts …"). Describe the organization's history,

current size (revenues, employees), location(s), and other relevant observations. Describe the organization's mission and business objectives. Discuss significant competitive/operational challenges (e.g., slow growth, new competitors, new regulations, etc.). Cite *all* sources used (including trade journals, magazines, books, Web pages, and primary sources). The form for citing articles is as follows: within the text, put the author's last name and article date in parentheses immediately following the referral or quote, then list all references alphabetically at the end of section 2.1.

> **Example:**
>
> > Within the report: One analyst noted: "Expect the Internet to be a payment free-for-all in 1996!" (Marx, 1995).
>
> > Within the <u>References</u> section of the report:
> > Marx, W., "Commerce is slow to hit the 'net," *Advertising Age*, November 20, 1995.

2.2 (2 pp). *Business Process Overview:* Describe how the business process that you are examining contributes to organizational goals. At this point you must explicitly refer to the challenges and objectives described in Part 2.1. On the organization chart, show how the department(s) in which this business process is used relate(s) to the larger organization. Take photographs or sketch the setting in which this business process is used. (NOTE: It is normally very important to depict the environment in which the process operates to assess the physical environment for control and to determine if the physical flow of people, documents, etc. is efficient and effective). What types (and quantities) of business events (i.e., transactions) are processed by this business process (e.g., 200 customer orders and 225 shipments each week)? Briefly describe the technology and software used and interfaces with other systems (from which it receives data or sends data). Include such details as hardware type (e.g., desktop, server, grid), brand (e.g., IBM, Hewlett Packard), operating system (e.g. Windows or LINUX), and database software (e.g. Oracle, Access). Does the client use a commercial enterprise system? Note whether the software was developed in-house or purchased, and if any of the system is outsourced (which parts and where).

2.3 Prepare a one-page *Narrative* describing the operation of the system; its data flows, processes, forms, files and reports. *Italicize* each entity and make each activity **bold**.

2.4 Prepare a *Table of Entities and Activities* (formatted similarly to Table 4.1 in the *Accounting Information Systems, 9th edition* text).

2.5 Using SmartDraw or other flow-charting package prepare a *Context Diagram*. Make sure that your symbols are similar to those in Chapter 4 of the *Accounting Information Systems, 9th edition* text. There is a template for use with SmartDraw on the course Blackboard Web site that contains the required symbols.

2.6 Using SmartDraw or other flow-charting package prepare a *Systems Flowchart,* which is consistent with the Narrative, Table of Entities and Activities, and Context Diagram. If your flowchart is multiple pages make sure each page is numbered and that your off-page connectors include the page numbers to which and from which they are flowing.

Items 2.3 through 2.6 are graded first drafts, and you will have an opportunity to revise them before turning in a final version of these items in Part 4. Doing well on Part 2 minimizes the amount of rework you will be asked to do in Part 4. Note that the Part 2 *grade* will *not* be revised in Part 4, so submit your best work on this section. **NOTE: Retain the graded sections 2.3 through 2.6 and hand them in with project Part 4.**

Part 3: Class Presentation (30% of project grade)

The requirement for this part is a 15-minute class presentation that is to be based on *drafts* of project Parts 4.3 through 4.5. Include the following elements:
1. Introduction and agenda.
2. Overview of the organization (who they are and what they do).
3. Description of the process that you studied (major inputs, outputs, and activities).
4. Description of controls in use. Be brief here. Your descriptions should only be a summary of the descriptions that you prepared for the client and for hand-in. Remember that we have all read the book and know how the business process controls work. This should be based on a draft of project Part 4.3.

5. Control analysis. This should be based on a draft of project Part 4.4.
6. Your recommendations to the client. This should be based on a draft of project Part 4.5.
7. Summary.

Your presentation is an opportunity to get feedback from your instructor and your peers as to the feasibility and likely impact of your recommendations. It should be interesting and informative. Presentations will be graded based both on clear *content* (what you say) and interesting, persuasive *form* (how you say it). **Content** will be graded according to the following criteria:

- Organization and relevance of the material you select for each of the above 6 sections.
- Ability to field questions from the audience.

A few guidelines concerning **form**:

- DO NOT exceed 15 minutes, not including Q&A session after your formal presentation.
- Use appropriate PowerPoint slides to *introduce* your topic, highlight a few *main points*, and *summarize*. Don't create a lot of visual clutter. Usually "less is more" on a PowerPoint slide!
- Be well rehearsed, yet natural; you may use notes, but do not merely read your material.
- Establish good audience rapport. Don't speak too fast or too softly; don't mumble; face the class at all times and establish eye contact with your audience.
- Avoid distracting gestures, but don't look like a robot!
- *Be prepared* to answer questions following the presentation.
- Verify that any visual aids that you do use can be clearly seen by everyone.
- You are welcome to use video, photos, Web demonstrations, skits, jokes or other devices to reinforce your main points. Don't use these techniques if they will distract from the main points you are trying to convey!
- DO NOT use your flowchart as a presentation visual aid; it is too cluttered. DO find some other way to visually depict how business events are processed.
- DO NOT use your control matrix as a presentation visual aid; same problem. DO find some other way to summarize the controls you identify and your assessment of them.

Part 4: Final Deliverable (30% of project grade)

On the scheduled due date and at the scheduled time (see the course syllabus for your options), submit the items below. See project Part 1 hand-in requirements.

4.1 (1 page) Executive Summary: This serves two purposes: First, it may motivate the reader to read the entire document, and secondly, it helps busy managers learn of your work, if they do not have time to read the entire document. Your executive summary should provide an overview of the entire document and highlight a key message, such as actions you are urging that your client take. Organize it as follows (*do not exceed 1 page*):

- Organizational problem, concern, objective, or opportunity, etc. that led to this engagement.
- Professional assignment. This should answer the following questions:
  - Who are you?
  - What was your assignment?
  - What tasks did your team perform?
- Purpose of the document (e.g. "This report describes our findings and recommendations...").
- Results (what your team observed/found).
- Conclusions (your team's assessment of the system's strengths and weaknesses).
- Recommendations: highlight your key message; extensive details go in the body of the report.

4.2 Revised Documentation: Revise and hand in Parts 2.3 through 2.6. You must also hand in your graded first draft of Part 2. Part 2.6 should now also be a corrected flowchart that is annotated with the controls noted in part 4.3 (below).

4.3 (4 pages) Control Matrix, depicting at least 5 present and 3 recommended ("missing") business process controls; with an explanation of how each business process control helps achieve operations and information process goals (remember: for each control, an explanation must be provided for every goal that is checked off on the matrix).
  NOTES:

- As noted in 4.2, your **corrected** *systems flowchart* should be *annotated* with existing and missing business process controls.
- You may make an appointment with your instructor to get feedback on your control matrix before your in-class presentation. You might also send a draft electronically to obtain feedback.
- There is a template (Word document) for this matrix on the Blackboard course web site.
- See Exhibits such as Exhibit 10.1 in your textbook, *Accounting Information Systems, 9th edition,* for proper format for your control explanations. In addition, as you describe each control explain if it is a preventive, detective, or corrective control.
- When selecting controls, both present and missing, consider how a manager in your client organization would know how the subject business process is controlled. That is, consider controls by which the manager monitors a business process.

4.4 (1-2 pages) Controls Analysis: Step back and think about the organization's system of internal control for the subject business process. Your analysis of controls should keep in mind what the objectives are for the use of the controls. Controls are framed by what the business process is to achieve (e.g., timely processing of customer orders, etc.) and to undesired events to be avoided (e.g., loss of transaction data, unauthorized access to confidential data, etc.). Discuss the overall adequacy of these controls. Discuss efficiency and effectiveness of the controls (e.g., if an operations or information process goal has no plan listed under it on your control matrix, why not? Is there an expensive control plan that supports only a single goal? If so, is this appropriate, in your judgment?). Discuss the mix of preventive, detective, and corrective controls. Consider the control environment, pervasive, and general controls. Do these controls allow the business process controls to be effective (e.g., Does the lack of segregation of duties or physical security make you skeptical as to the potential effectiveness of the business process controls). Overall, does this system of controls address the major risks to which this process may be exposed?

4.5 (1-2 pages) Managerial Recommendations: Consider how well the system achieves organizational goals, and how it might be incrementally or dramatically reengineered (e.g., by taking advantage of new technologies) to better achieve organizational goals. Note: If you recommend changes in process procedures, prepare a draft of the new procedure(s), and document how the process would change, using a data flow diagram or flowchart. If you recommend a new report, prepare a draft of that report. If you recommend that new hardware or a new software package be purchased, then indicate either a specific product recommendation, or list several viable options. Do not repeat here your discussion of missing controls from Part 4.3. Rather, if you want to recommend that a missing control be implemented (or not be implemented) you should explain here how this would affect the accomplishment of business objectives.

4.6 (1 page) Client response. Give your client a clean copy of Parts 2.1, 2.2 and 4.1 through 4.5, and ask for their assessment of the report's accuracy. Ask also about the usefulness of the report; e.g., do they plan to implement some or all of your recommendations? You may write a summary of your team's discussion with the client contact person, or provide a letter written to the team by your client. Be sure to clearly indicate who reviewed your report, and include their phone number and address so that your instructor can contact them subsequently (to thank them for their participation). *Allow sufficient time for your busy client to respond to your work since the response is a graded requirement of Part 4.*

4.7 (1 page) Thank you letter. Also include a *copy* of a thank-you letter, which you sent to the client. . (Since this page might be handed-in separately, the page numbering requirement does not apply to this page.)