

# Ais final cheat sheet essay



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The Control Matrix A tool designed to assist in analyzing the effectiveness of controls, PCAOB Auditing Standard Number 5 – “ Effectiveness of Control Design” Establishes the criteria to be used in evaluating the controls in a particular business process Steps in Preparing a Control Matrix STEP I:

Specify control goals 1.

Identify the Operations Process Control Goals -Effectiveness goals -Efficiency goals -Security goals 2. Identify Information Process Control Goals -Input Goals -Update Goals Operations Process Goals: For cash receipts process, two examples are: A: Timely deposit of checks B: Comply with compensating balance agreements with the depository bank -Other possible goals of a cash receipts would be shown as goals C, D, etc. nd described at the bottom of the matrix (in the matrix legend) With respect to other business processes, such as production, possible effectiveness goals are: A: Maintain customer satisfaction by finishing orders on time B: Increase market share by ensuring the highest quality of goods Operations Process Goals: Efficiency Goals Ensure that all resources used throughout the business process are being employed in the most productive manner In general, people and computers should always be included in the efficiency assessments related to accounting information systems For other business processes, such as receiving goods and supplies, efficiency goals include the productive use of equipment Operations Process Goals: Security Goals Ensure that entity resources are protected from loss, destruction, disclosure, copying, sale, or other misuse Two resources of the cash receipts process over which security must be ensured are cash and information (accounts receivable master data) Information Process Goals: Input Goals Update Goals Ensure: Update

completeness (UC) Update accuracy (UA) Steps in Preparing the Control Matrix STEP II: Identify recommend control plans 1. Annotate “ Present” Control Plans 2. Evaluate “ Present” Control Plans 3. Identify and Evaluate “ Missing” Control Plans Systems flowchart: Manual And Automated Data Entry Available Control Plans for Data Input P-1: Document design P-2: Written approvals P-3: Preformatted screens P-4: Online prompting P-5: Populate input screen with master data P-6: Compare input data with master data Available Control Plans for Data Input P-7: Procedures for rejected Inputs P-8: Programmed edit checks P-9: Confirm input acceptance P-10: Automated data entry P-11: Enter data close to the originating source P-12: Digital signatures Batch Control Plans To be effective, batch control plans should ensure that: All documents are included in the batch-All batches are submitted for processing-All batches are accepted by the computer-All differences are disclosed, investigated and corrected on a timely basis-Batch control procedures start by grouping event data and calculating totals for the group Batch Control Plans-Dollar totals-Sum of dollar value of items in batch-By reducing the possibility that entire documents could be added to or lost from the batch or that dollar amounts were incorrectly input, this control improves input validity, completeness, and accuracy-Hash totals-Summation of any numeric data existing for all documents in the batch, such as a total of customer numbers or invoice numbers in the case of remittance advices-Hash totals are a powerful control, as they can determine if inputs have been altered, added, or deleted-Batch hash totals are, for a batch, similar to document/record hash totals for individual inputs Data Entry Batches Control Plans Present Controls P-1: Turnaround documents P-2: Manually reconcile batch totals P-3: Agree run-to-run totals (reconcile input and output batch

totals) P-4: Review tickler file (file of pending shipments) P-5: One-for-one checking (compare picking tickets and packing slips) Missing Controls M-1: Sequence check M-2: Computer agreement of batch totals The Order Entry/Sales (OE/S) Process Introduction The order entry/sales (OE/S) process includes the first four steps in the order-to-cash process<sup>1</sup>. Pre-sales activities 2. Sales order processing 3. Picking and packing the goods 4.

Shipping Process Definition and Functions To create information flows supporting: Repetitive work routines of the sales order department, the credit department, and the shipping department -Decision needs of those who manage various sales and marketing functions Horizontal Perspective Management Questions Using Data Mining to Support Marketing Data warehousing Data mining Global E-business E-business systems are divided into two categories: Buy Side -Systems use the Internet to automate and manage corporate vendors and purchases E. g. Electronic data interchange (EDI), Supply chain management (SCM) Sell Side -Systems are designed to allow a company to market, sell, deliver, and service goods and services to customers throughout the world via the Internet CRM Systems Cultivate customer relationships by prospecting, acquiring, servicing, and retaining customers Customer self-service systems Context Diagram Diagram 1: Validate Sales Order 1. 1 – Verify inventory availability Diagram 1: Validate Sales Order 1. – Check credit Diagram 1: Validate Sales Order 1. 3 – Complete sales order Diagram 1: Validate Sales Order External Data Flow of Process 1. 3: A picking ticket authorizes the warehouse to “ pick” the goods from the shelf and send them to shipping -A customer acknowledgment notifies the customer of the order’s acceptance and the expected shipment

date -A sales order notification is sent to the billing department to notify them of a pending shipment -Diagram 2: Complete Picking Ticket Diagram 3: Execute Shipping Notice Diagram 3 : Execute Shipping Notice 3. 2 – Produce Shipping Notice Diagram 3 : Execute Shipping Notice External Data Flow of Process 3. Shipping's billing notification – notifies billing to begin the billing process OE/S Data Stores -Marketing data-Customer master data-Sales order master data- A/R master data-Inventory master data Optical character recognition (OCR) is similar to bar code readers work, but recognize a pattern of handwritten or printed characters The OE/S Process Flowchart Starts with customer calls received in the customer service center Customer service representatives (CSR) may perform a number of services for a customer including: Checking the availability of inventory-Determining the status of open orders-Initiating orders-Confirming orders-Control Matrix The purchasing process is an interacting structure of people, equipment, activities, and controls that is designed to accomplish the following: Handle the repetitive work routines of the purchasing department and the receiving department-Support the decision needs of those who manage the purchasing and receiving departments-Assist in the preparation of internal and external reports An Internal Perspective of the Purchasing Process Possible Goal Conflicts Individual managers' goals may not be in congruence with organizational objectives Purchasing may buy large quantities to reduce ordering costs and increase discounts leading to increased receiving, inspecting, and carrying costs -Ambiguity often exists in defining goals and success in meeting goals -A purchasing goal might be to select a vendor who will provide the best quality at the lowest price by the promised delivery date.

Realistically, one vendor may not satisfy all three conditions Possible Goal Conflicts Prioritization of goals is necessary in choosing the best solution given the various conflicts and constraints placed on the process -Trade-offs are made in prioritizing among the goals that conflict-If the market is sensitive to satisfying customer needs, the company may pay higher prices to ensure that it can obtain the highest quality goods on a timely basis

Supply Chain A Value System Supply Chain The connections from the suppliers of merchandise and raw materials through to an organization's customers. These connections include the flow of information, materials, and services Organizations manage links in their supply chains to get the right goods, in the right amount, at the right time, and at minimal cost (i. e. , efficiency) to create maximum value for their customers (i. e. effectiveness)

Supply Chain Management (SCM) The multiplication of false orders up the supply chain can cause wild demand and supply fluctuations known as the bullwhip effect SCM Software Supply chain planning software Accumulates data about orders from retail customers, sales from retail outlets, and data about manufacturing and delivery capability to assist in planning for each of the SCM steps -Supply chain execution software-Automates the SCM steps - Includes ERP software that receives and routes orders, and executes invoices-Many connections in the supply chain are B2B automated interfaces

Benefits of SCM Lower costs to the customer-Higher availability of product-Higher response to customer requests-Reduced inventories along the supply chain-Improved buyer-seller relationships-Smooth shipping and receiving-Reduced item cost-Increased customer orders-Reduced product defects

Potential Problems with SCM Initiatives Data not collected or not shared across functional boundaries -Information is not shared between supply

chain partners-Inaccurate data negatively affects the entire chain Over-reliance on demand forecasting that may be inaccurate Competing marketing and sales objectives can lead to unrealistic forecasts Mitigating Problems with SCM Initiatives Types of Collaboration in the Supply Chain CRP: Continuous Replenishment also called: VMI Vendor Managed Inventory SMI Supplier Managed Inventory Co-managed Inventory (a form of CRP) CFAR: Collaborative Forecasting and Replenishment (precursor to CPFR) CPFR: Collaborative Planning Forecasting and Replenishment CPFR Process Context Diagram Level 0 Diagram Triggering the Purchasing Process Purchase requisition: internal request to acquire goods and services Requisitions received from authorized personnel within an organization are: For inventory replenishment Received from automated inventory replenishment systems, such as SCM processes Routed by workflow for approval by the requisitioning department supervisor Diagram 1:

Determine Requirement Determining Requirements Need to determine what inventory to order, when to order it, and how much to order Push-based supply chain: goods and services are ordered in anticipation of demand based on sales and demand forecasts Pull-based supply chain: uses data from vendors and customers to make purchasing decisions on the basis of actual demand Inventory Reorder Methods Reorder point (ROP) analysis: each item is assigned a reorder point based on its sales rate Economic order quantity (EOQ): order quantity based on costs of ordering and carrying inventory ABC analysis: technique for ranking items in a group based on the output of the items. Can be used to categorize inventory items according to their importance Diagram 2: Order Goods and Services Diagram 3: Receive

Goods and Services Purchasing Inputs and Outputs Purchase order (PO): request for the purchase of goods or services from a vendor Blind copy: certain data on a document (or computer screen) is blanked out (i. e. blinded), such as quantities ordered on the PO available to receiving personnel Vendor packing slip: accompanies the purchased inventory from the vendor and identifies the shipment Purchasing Inputs and Outputs Receiving report: a document, such as a PO, annotated with the quantity received that is used to record merchandise receipts Acceptance report: documents services received to formally acknowledge the satisfactory completion of a service contract Purchasing Process Data Stores Inventory master data: record of each item stocked or regularly ordered Vendor master data: record of each vendor approved for use by the organization Purchase requisition data: data on all purchase requisitions Purchase order master data: open POs including status of items on order Purchase receipts data: record of each receipt of goods and services E-R Diagram Relational Tables Relational Tables Technology and the Purchasing Process E-procurement: use of information technology to automate significant portions of the procurement process to reduce the number of people and amount of time required for the procurement process. For example, a purchasing organization can use intelligent agents, Web Services, and B2B exchanges Paperless systems: eliminate documents and forms as the medium for conducting business Technology and the Purchasing Process B2B marketplaces: which are particular Web sites or portals that may be used as sources of supply in the procurement process Radio-frequency identification (RFID): a system for sending and receiving data, using wireless technology, between an RFID tag and an RFID transceiver.



RFID tags are computer chips containing information about the object to which the tag is attached and an antenna that sends and receives data

Systems Flowchart Systems Flowchart Fraud and the Purchasing Function

Because the end of the purchase-to-pay process is the payment of cash, manipulation of purchasing is involved in many frauds Examples: An employee places orders with a particular vendor in exchange for a kickback, secret commission, or other form of inducement from the vendor An employee has a conflict of interest between his responsibilities to his employer and his financial interest – direct or indirect -in a company with whom the employer does business Control Matrix Control Matrix Validity of PO Inputs Valid PO inputs (i. e. purchase requisitions): start with a requisition that is approved by the appropriate cost center authorities and results in POs that are themselves approved and issued to an authorized vendor To be added to the vendor master data, a vendor should be investigated for the quality of its processes and products By adding a vendor to the vendor master data, management has provided authorization to do business with that vendor Validity of Vendor Packing Slip Inputs Valid vendor packing slip inputs are supported by an approved PO and an actual receipt of goods Vendor packing slips not supported by an approved PO may result in overstocking inventory and, if the inventory cannot be used, an overstatement of the inventory asset Vendor packing slips that do not correspond to an actual receipt of goods will cause inaccurate inventory records and an overstatement of inventory and liabilities Key Controls Approve purchase requisition: An authorized individual, or several individuals, such as cost center or department management, should approve purchase requisitions Use authorized vendor data: Vendors should be vetted

to determine their suitability to provide the organization with goods and services. The screening process might include vendor financial viability and performance record

**Key Controls Independent vendor master data maintenance:** should be a separation of duties between the personnel who create vendor records (to authorize purchases and payments) and those that create and approve POs, record accounts payable, and approve payments. Without this separation: There could be kickbacks or conflict of interest

**Accounts payable personnel could create a vendor account to create an invalid/fraudulent invoice**

**Key Controls Compare vendors for favorable prices, terms, quality, and product availability:** Before executing a purchase, prospective vendors should be compared to determine that they are the optimal choice for the purchase

**Approve purchase order:** appropriate personnel should approve POs to ensure that an appropriate supplier has been selected and that the correct goods and services, for the correct amounts, are being purchased

**Key Controls Confirm purchase order to requesting department:** The requesting department should be informed when a PO has been issued in response to a purchase requisition

**Independent authorization to record receipt:** Before a receipt can be accepted and recorded, the receipt data should be compared with the PO master data to determine that an approved PO, prepared by someone other than receiving personnel, is on file

**Key Controls Compare input receipt data to PO data:** Before a receipt can be accepted and recorded, the receipt data should be compared with the PO master data to determine that the correct goods have been received

**Inspect goods:** To ensure that the correct goods are received in acceptable condition

**Implementing the HRM Process**

**Inputs:** In general, the HR forms in the systems flowchart capture information

about three HR-related events: (1) selecting employees (2) evaluating employees (3) terminating employees Implementing the HRM Process

Selecting employees may be initiated in one of two ways: 1. Departmental managers (outside the HR department) may initiate the process to satisfy their immediate hiring needs 2.

Selection process may be automatically started by the system The candidate selected and hired can come from within or outside of the organization

Implementing the HRM Process Evaluating employees involves many activities Departmental managers and supervisors (outside the HR function) usually initiate evaluations or other changes affecting employees The manager of personnel appraisal and development (in HR) typically approves the review and implements changes Implementing the HRM Process

Terminating employees closes the employment process loop Periodically, departmental managers and supervisors (in concert with HR managers) must make difficult decisions about the retention of employees If a termination is necessary, the employee change screen is used to initiate the process of changing an employee's status from current employee to terminated employee Implementing the HRM Process

Processing Logic and Process Outputs HR requests initiated outside of the HR department are approved within that department and then routed to HR for approval Some data may be entered within HR The employee/payroll master data, skills inventory data, and labor-force planning data within the enterprise database are updated and various reports are made available Several outputs are produced

including Internal communications Payroll reports Reports for governments Organization Chart Context Diagram Level 0 DFD Diagram 4 Payroll Fraud

Types of payroll frauds: Ghost employees (former or non-existent employees who are issued paychecks) Falsified hours and salary (overstated hours worked or base salary amount) Commission schemes (overstated sales or commission rates) False worker's compensation claims (faking injury to receive compensation) Payroll System Controls Segregation of duties between HR: create employee records Payroll: prepare payroll AP/cashier: disburse cash Direct deposit (eliminates opportunity for check fraud) Review of employee master data for duplicate names and/or social security numbers Compare actual payroll to budget Reimbursement Fraud Reimbursement for employee business expenses Often done through the payroll system Fraudulent activities include: Claiming personal expenses as business Altering receipts to increase expenses Submitting false receipts Submitting the same expense multiple times Control Matrix Chapter 15 Integrated Production Processes (IPP) Today's Biggest Business Challenge involves knowing how to respond to a world in which the frame and basis of competition are always changing McKinsey Global Survey (2010) Global Manufacturing Environment Manufacturing is a quick way for developing countries to increase wealth and citizens' wages Global competition has forced domestic companies to become more customer-focused and efficient in order to survive/compete successfully Such efforts have led to marked improvements in domestic productivity Key Drivers of Complexity & Key Characteristics of Success Key drivers of complexity in manufacturing operations: pressure to reduce costs throughout the value chain pursuit of new, lucrative markets and channels quickening pace of product innovation Key characteristics of companies that successfully manage global complexity: improved internal business processes better use of technology

better general capabilities Value of IT Infrastructure Real time data collection  
E. g. Radio Frequency Identification (RFID) tags Large scale analytics Speed  
to market The customer experience Employees' productivity Developers'  
productivity McKinsey (2009) McKinsey 2010 Global Survey Product  
Innovation Key to competition in a complex environment: innovative, quick to  
market products Cooperation is vital Enterprise systems facilitate product  
design, manufacturing and marketing Companies adopting a value chain  
approach have achieved dramatic productivity gains Product lifecycle  
management(PLM) Production Process Innovation Throughput time is  
reduced by switching from push to pull manufacturing Push manufacturing is  
driven by the sales forecast Pull manufacturing is driven by sales orders and  
leads to: Short production runs Continuous flow operations Cellular  
manufacturing Reduced inventories and floor space Supply Chain  
Management (SCM) Combination of processes and procedures used to  
ensure lowest cost and highest quality E-business plays an increasing role  
SCM software helps with available to promise and capable to promise  
planning Available to promise planning: the accumulation of the data on  
current inventories, sales commitments, and planned production to  
determine whether the production of finished goods will be sufficient to  
commit to additional sales orders Capable to promise planning: the  
accumulation of the data on current inventories, sales commitments,  
planned production, and excess production capacity, or other planned  
production capacity that could be quickly converted to production of the  
desired finished goods necessary to fulfill a sales order request The  
Challenges Ahead for SCM Shifting Priorities Management Accounting  
Systems Enterprise systems can capture information in real time and share it

across the value chain Activity-based costing (ABC) is prevalent in companies seeking to increase accuracy: Recognizes cost drivers other than production volume or direct labor explains many activity costs Managers can estimate lifecycle costs Emphasize the importance of the accuracy and timeliness of cost information and the use of this information for the strategic management of products and processes throughout the value chain from design to manufacturing to marketing and post-sales servicing Trends in Cost Management / Cost Accounting Integrated Production Process Key Manufacturing Terminology Design Product and Production Process IPP begins with the design of product and production processes Automated using computer-aided design (CAD) and computer-aided engineering (CAE) Objectives: Improve design productivity Reduce design lead time Enhance design quality Facilitate access to and storage of product designs Improve design efficiency Streamline production processes Outputs: Bill of Materials (BOM) Parts master Routing master: computer-aided process planning (CAPP) Work center master Generate Master Production Schedule Second step in IPP Master Production Schedule (MPS) A statement of specific production goals developed from forecasts of demand, actual sales orders, or inventory information What items to produce? How many quantities? What is the production schedule?

Forecasted Manufacturing Orders Determine Needs for Materials Third step in IPP Identify, order, and receive materials Materials Requirement Planning (mrp) A process that uses bills of materials (BOMs), raw material and work-in-process inventory status data, open purchase order data, and the master production schedule to calculate a time-phased order requirements schedule

for materials and subassemblies Bill of Materials (BOM) Develop Detailed Production Instructions Fourth step in IPP Detailed instructions on when the goods will be processed through each necessary work center and the labor necessary to complete the work Capacity Requirements Planning (CRP) Manufacturing Orders (MO): the official trigger to begin manufacturing operations Move tickets: authorize and record movement of a job from one work center to another Raw materials requisition Production Routing Master Manufacturing (Production Work Centers) Manufacturing Automation Flexible manufacturing systems (FMS) Computer-aided manufacturing (CAM) Automated storages and retrieval systems (AS/RS) Automated guided vehicle systems (AGVS) Just-In-Time (JIT) Manufacturing Pull manufacturing Simplify manufacturing operations and reduce inventories Record Manufacturing Events Last step in IPP Shop Floor Control (SFC): monitor and record the status of manufacturing orders as they proceed through the factory The Role of IPP in Generating Managerial Information Variance Analysis Compares actual costs and usage to standards costs and usage Not perfect, but can be an important control tool Helps determine if production processes are performing as expected Level 0 DFD – Variance Analysis Record Standard Costs Standard cost master data contains quantity and price standards Each completed move ticket triggers an update to work-in-process (WIP) for the standard costs allowed for the completed operation Issuance of raw materials updates the WIP for the standard costs of materials Compute Raw Material & Direct Labor Variances Raw Material Quantity Variance RM are issued in standard quantities If additional materials are issued – unfavorable variance If unused materials are returned – favorable variance Quantity used – quantity allowed) x standard cost Direct Labor Variances Rate Variance:

(Actual rate – standard rate) x standard hours Efficiency Variance: (Actual hours – standard hours) x standard rate Close Orders & Compute Overhead Variances Close Manufacturing Orders Triggered by final move ticket Closes the WIP cost record and computes the standard cost of goods Notifies GL to make appropriate entries Compute Manufacturing Overhead (MOH) Variances Generally done at the end of the accounting period Actual MOH – (Standard MOH rate per hour x standard hours charged for all jobs) Inventory Management The Fraud Connection Inventory is a primary domain for management fraud Inventory manipulation – frequency and materiality of misstatement – is massive AICPA Practice Alert No. 4-2 lists types of inventory fraud Counting as inventory items that should not be included because they are obsolete, non-existent, not as purported to be or not owned Double counting or increasing counts on items not tested by the auditors Including items for which the corresponding payable has not been recorded Manipulating reconciliations or programming the computer to produce false inventory information Inventory Process Controls Effectiveness of operations Maintain sufficient inventory to prevent stock-outs Maintain sufficient inventory to minimize operational inefficiencies Minimize cost of carrying inventory Perpetual inventory records (know what inventory levels exist) JIT materials acquisition (no overstocks) Internal transfer procedures Inventory Process Controls Efficient employment of resources JIT materials acquisition including vendor managed inventory (VMI) Warehouse bin location (optimizes size and location of inventory bins) Resource security Periodic physical inventory counts Locked storerooms General Ledger and Business Reporting (GL/BR) process An interacting structure of people, equipment, activities, and controls that is designed to accomplish both



operations and information system functions Has fewer operational functions; focuses mainly on information functions The work is the processing and communicating of information General Ledger (GL) Process Accumulating data, classifying data by general ledger accounts, and recording data in those accounts Fueling the financial reporting, business reporting, and other reporting subsystems by providing the information needed to prepare external and internal reports. In servicing the information needs of managerial reporting, the GL interacts with the budgeting modules Business Reporting (BR) Process Preparing general purpose, external financial statements and ensuring that the external financial statements conform to GAAP Generating Web-based forms of key financial statement and related business reporting information for dissemination via the Internet Supporting the generation of both ad hoc business reports and predetermined business reports that support operational and strategic decision making Feeder Process Any business process that accumulates business event data that are then communicated to and processed within the GL Business processes discussed in the earlier chapters View treasurer as a feeder because the treasurer furnishes the GL with updates for investing and financing activities Responsibility Accounting / Reporting System Managerial reporting system ties to the hierarchy or chain of responsibility/authority reflected by the firm's organization chart Information is reported upward, the level of details is filtered, meaning that figures are aggregated (summarized) as they are reported to successive management levels Horizontal vs.

Vertical Information Flows Context Diagram Level 0 DFD Logical System

Description Journal voucher: internal source document used to notify the GL

to make an accounting entry General ledger master data: contains summarized information of all of an organization's business event data Audit trail: source code field of each GL entry; allows tracing from GL entry back to the feeder system and individual business events that have been aggregated into the GL balances Coding the GL Chart of Accounts Hierarchical coding 1113 Cash in Bank: 1xxx= assets x1xx= current assets xx1x= cash accounts xxx3= cash in bank Limitations of the GL Approach Most GL systems only capture the chart of account number and debit or credit Other information about a business event is generally discarded After closing, detailed event-level data are purged from the system Changing account numbers /account structures raises a problem with comparability Technology-Enabled Initiatives in Business Reporting ERP Financial Module Capability Balanced Scorecard Business Intelligence eXtensible Business Reporting Language (XBRL) ERP Financial Module ERP security can become detailed and complex due to different privilege levels for different users Balanced Scorecard Methodology for assessing organization's business performance: Financial: Traditional measures of business performance; shareholders view Internal business processes: Capacity to identify core competencies and assess performance Customers: How customers perceive the rganization in terms of value Innovation and improvement activities: How the organization is improving and creating additional value Business Intelligence Integration of statistical and analytical tools with decision support technologies Facilitates complex analyses of data warehouses by managers and decision makers Modules use highly complex analytical techniques to search for relationships that will provide insight for decision making eXtensible Business Reporting Language (XBRL) An electronic markup language for the purpose of

corporate business reporting XML-based language consisting of a set of tags used to unify presentation of business reporting information into a single format Several regulators have begun accepting or requiring filings be done in XBRL format SEC mandates the 500 largest companies starting filing their financial results using XBRL in 2009 and all public companies do so by 2011

XBRL Components Specification: a uniform standard that provides guideline on how to design taxonomies and instance documents in XBRL Taxonomy: a group of definitions that together provide meaning to reporting concepts.

Enables transfer of information among a variety of systems Instance or instance document: XBRL document that contains all information, at a given point in time, including tags, about the occurrence of an item—for example, a trial balance instance document

An Example of XBRL Benefits of Using XBRL Easily read by almost any software package Easily searched by Web browsers XBRL is a language independent, platform independent, accounting policy independent standard For financial report preparers: XBRL applies standard tags to the raw financial data, an XBRL-enabled application can understand and process the data.

The same set of data can be used across applications => Accountants can enter data once into the computer system and use it multiple times XBRL can be integrated with ERP systems, corporate data warehouses, and other corporate information systems For business report users: XBRL can streamline the extraction and analysis of business reports for a large variety of financial report users

U. S. GAAP vs. IFRS U. S. GAAP: rule-based (older, more guidance) IFRS: principle-based (more general, less prescriptive) “Convergence” of U. S. GAAP and IFRS : standards start blend together, with

differences reconciled Since 2002, FASB and IASB have been working to converge U. S. GAAP and IFRS In 2007, the SEC allows private foreign issuers to report their results under IFRS without reconciling them to U. S. GAAP As of end of 2010, at least 120 countries have signed to replace their local GAAPs with some version of IFRS, and the SEC is contemplating doing the same in the U. S.

Current Environment for External Financial Reporting Investors want more information faster Sarbanes-Oxley demands “ rapid and current” disclosures SEC has shortened the time companies have for reporting certain events Real-time reporting is feasible and facilitated by enterprise systems with data flows to the GL in a real-time manner Current Environment for External Financial Reporting Continuous assurance (continuous auditing) Audit modules in ERP software Auditor access to data with query tools, SQL Idea is to detect problems quickly to prevent them from recurring or getting larger Internal Auditor’s IT Blues IT governance structures and processes IFRS XBRL ISO information security standards and ISO standards for environmental management systems Acquiring an AIS from External Parties Make or Buy; Standard vs.

Customized Application Service Providers (ASP) An ASP offers a traditional outsourcing mechanism whereby it hosts, manages, and provides access to application software and hardware over the Internet to multiple customers Software as a Service (SaaS) A web-based model of software distribution where multiple users may simultaneously use the software Systems Development Objectives: To ensure the information system satisfies an organization’s informational and operational needs (product-oriented

objective) To develop/acquire an information system in an efficient and effective manner (process-oriented objective) SDLC Four primary phases: 1. Analysis 2. Design 3. Implementation 4.

Operation Systems Development Methodology Divide project into identifiable processes, each having a starting and ending point Produce deliverables to monitor process Provide signoffs Test system before implementation Conduct training Use program change controls Conduct post-implementation review Systems Development Life Cycle (SDLC) SDLC Phases, Purposes & Tasks Analysis (Bubbles 1. 0 and 2. 0) Develop specifications for a new or revised system: Study problem and environment Propose solutions Design (Bubbles 3. 0 and 4. 0) Develop an appropriate system manifestation: Convert solution to a physical design Choose software and hardware Write design specifications Devise implementation plans, system tests and training programs SDLC Phases, Purposes & Tasks Implementation (Bubble 5. 0) Begin using the new system: Write, test and debug computer programs Convert to new or revised system Operations (Bubbles 6. 0 and 7. ) Use the new system: Conduct post-implementation review Perform systems maintenance Conducting the Systems Survey Determine the nature and the extent of each reported problem Determine the scope of the problem Propose a course of action that might solve the problem Determine the feasibility of any proposed development Devise a detailed plan for conducting the analysis step Develop a summary plan for the entire development project Structured Systems Analysis Tasks A set of procedures conducted to generate the specifications for a new (or modified) information system (subsystem) Define the problem precisely Devise alternative designs

(solutions) Choose and justify one of these alternative design solutions

Develop logical specifications for the selected design Develop the physical requirements for the selected design Develop the budget for the next two systems development phases: systems design and systems implementation

Steps to the Analysis Deliverable: The Approved Systems Analysis Document

Study and document the current physical system Define user requirements for the new system Conduct a cost/effectiveness study Perform the cost/benefit analysis Determine each alternative's effectiveness Recommend an alternative Prepare the approved systems analysis document (logical specifications, physical specification, budget and schedule) Obtain approvals

Approved Systems Analysis Document Systems Selection A set of procedures performed to choose the software specifications and hardware resources for an information system Determine what computer software design will implement the logical specification developed in structured systems analysis Determine what computer hardware will satisfy the physical requirements established in structured systems analysis Choose acquisition financing methods that are in the best interest of the organization Determine appropriate acquisition ancillaries

Approved Configuration Plan Chosen software configuration and expected performance specifications Chosen hardware type, manufacturer, and model Items to be included in the hardware contracts Results of testing alternative software design and hardware resources Assessment of financing and outsourcing alternatives

Hardware Acquisition Alternatives Internal acquisition and management Less flexible than use of external sources Permits the organization to control and tailor the system Owned and managed by external entities Usually provide more capacity and take less resources than internal acquisition Options:

outsourcing, such as the use of service bureau, ASP or SaaS Internal vs. External System Sources Outsourcing vs. Service Bureaus Outsourcing: assignment of an internal function to an outside vendor, through the use of a service bureau, ASP, or SaaS—to fulfill its hardware needs Service bureau: firm providing information processing services, including hardware and software for a fee.

Can provide the services less expensively and in a timelier manner than would be possible with an in-house computer Systems Selection Prepare requests for proposal (RFP) Evaluate vendor proposals Validate vendor proposals Consider other data and criteria Suggest resources Typical Contents of a Request for Proposal Detailed Vendor Comparison Structured Systems Design A set of procedures performed to convert the logical specification into a design that can be implemented on the organization's computer system Convert the structured specification into a reliable, maintainable design Develop a plan and budget that will ensure an orderly and controlled implementation of the new system Develop an implementation test plan that ensures that the system is reliable, complete, and accurate Develop a user manual that facilitates efficient and effective use of the new system by operations and management personnel Systems Implementation Tasks A set of procedures performed to complete the design contained in the approved systems design document and to test, install, and begin to use the new or revised information system Complete, as necessary, the design contained in the approved systems design document Write, test, and document the programs and procedures required by the approved systems design document (in-house systems only) Ensure, by completing the

preparation of user manuals and other documentation and by educating and training personnel, that the organization's personnel can operate the new system Determine, by thoroughly testing the system, that the system satisfies the users' requirements Ensure a correct conversion by planning, controlling, and conducting an orderly installation of the new system Project Completion Report Summary of requirements satisfied by the new system Estimated and actual duration of each development stage Estimated and actual systems performance System documentation Program documentation User and operations run manuals System test report User and operator training programs and manuals Systems Implementation Approaches Post Implementation Review Tasks Determine if the user is satisfied with the new system Identify how well the system's achieved performance corresponds to the performance requirements, recommending improvements if necessary Evaluate the quality of the new system's documentation, training programs, and data conversions Ascertain that the organization's project management framework and SDLC were followed during development Post Implementation Review Tasks Recommend improvements to the systems development/acquisition standards manual if necessary Improve the cost/effectiveness analysis process by reviewing cost projections and benefit estimations and determining the degree to which these were achieved Improve project-planning procedures by examining total project costs and the project team's ability to adhere to project cost estimates and schedules Make any other recommendations that might improve the operation of the system or the development of other information systems System Maintenance Types Corrective: Maintenance performed to fix errors Perfective: Maintenance conducted to improve the performance of an



application Adaptive: Maintenance that adjusts applications to reflect changing business needs and environmental challenges Systems Maintenance Tasks Accomplish system changes quickly and efficiently Prevent system changes from causing other system problems Make system changes that are in the organization's overall best interest Perfect systems development and systems maintenance procedures by collecting and using information about system changes Supplant systems maintenance with the systems survey if requested changes are significant or if they would destroy the system Minimize control exposure and organizational disruption that can be caused by systems maintenance Accountant's Involvement in AIS Development/Acquisition User Analyst Purchaser Implementer Consultant Internal Auditor External Auditor