INFO5990
Professional Practice in IT

Source : techwell.com

Source : AIMA

School of Information Technologies

University of Sydney

Lecture 03 A & B

I.T QA & Information System Audit

INFO5990 – Professional Practice in IT

Today's Agenda

- Update on assignments

- Discussion on IT Audit & QA

- Case study using QA / Audit in Military Communications
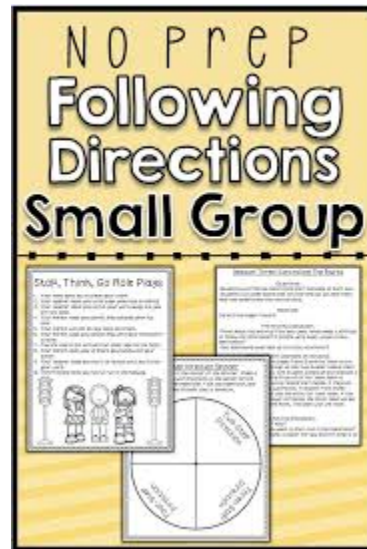
Group teams
Set up next week once it is final

Source:Washington.edu
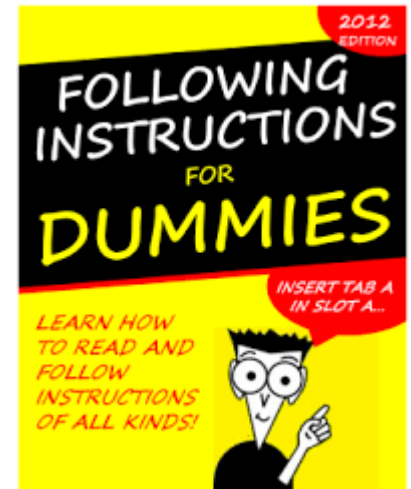
Group teams
ARE AS PER TUTORIAL GROUPS

Please follow instructions for team set-up otherwise you and I will be frustrated

Source:Washington.edu

Source:pinterest.com

Source:blogvafechicks.post

Quick Update

- **Group Assignments:**
  - Be in your teams. Failure to do so will mean a maximum mark of 0% for group assignments and group oral presentations – EVEN IF THE GROUP RECEIVES A High Distinction !
  - Are there still any orphans without a team ?
  - All teams to have a project to work on
  - Understand which part of the problem you are looking at
  - See where A.I will help you solve this issue.
  - Start using the lean canvas to articulate the problem / solution.
  - You are coming up with a proposal, not building anything.
  - Proposal will then be funded so you can build.
  - Next week start working on the Solution

Using the lean canvas

PROBLEM	SOLUTION	UNIQUE VALUE PROPOSITION	UNFAIR ADVANTAGE	CUSTOMER SEGMENTS
List your top 1-3 problems.	Outline a possible solution for each problem.	Single, clear, compelling message that states why you are different and worth paying attention.	Something that cannot easily be bought or copied.	List your target customers and users.
	KEY METRICS		**CHANNELS**	
	List the key numbers that tell you how your business is doing.		List your path to customers (inbound or outbound).	
EXISTING ALTERNATIVES		**HIGH-LEVEL CONCEPT**		**EARLY ADOPTERS**
List how these problems are solved today.		List your X for Y analogy e.g. YouTube = Flickr for videos.		List the characteristics of your ideal customers.

COST STRUCTURE	REVENUE STREAMS
List your fixed and variable costs.	List your sources of revenue.

Group Project
What is emerging technology

Source:tadigital.ms

Source:lawfirm.ms

Quick Update Quiz 1

- 60 minutes / 10 marks   - ONE ATTEMPT

- 60 questions / 1 + minutes per question

- Open book / use your slides, only 1st 6 weeks lectures
  - questions to test your critical and analytical skills !

- 1 attempt to answer questions – otherwise it is too easy

- **Random questions – cannot work your mates answer !**

- *Open from October 4th@ 11.59pm till 11th October @ 11.59pm*

- Do it any time, but make sure you complete in 1 go

- Cannot have 280 students claiming internet was down - they get 0%.

- No extensions！ - Don't just try to see if it is working !

- No reset's if you are not in lecture or have not read the instructions – students receive 0

One-on-one Group Tutoring
Your role and your tutors role

Time to ask questions, challenge the thinking, run an idea past your tutor
Students comment positively on this approach.
You have to come up with the idea's – not the tutors.

What is Auditing

Information Systems are integral to organisations.

Key business processes are enabled using information systems

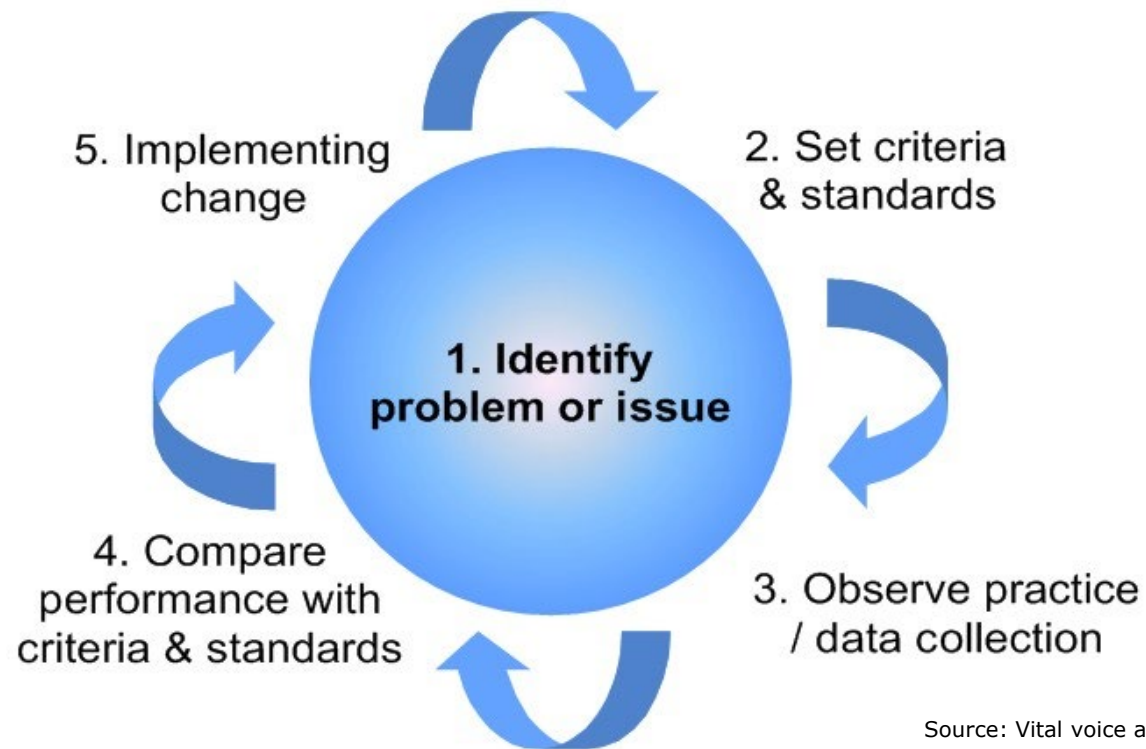The purpose of IS audit is to review and provide feedback, assurances and suggestions.

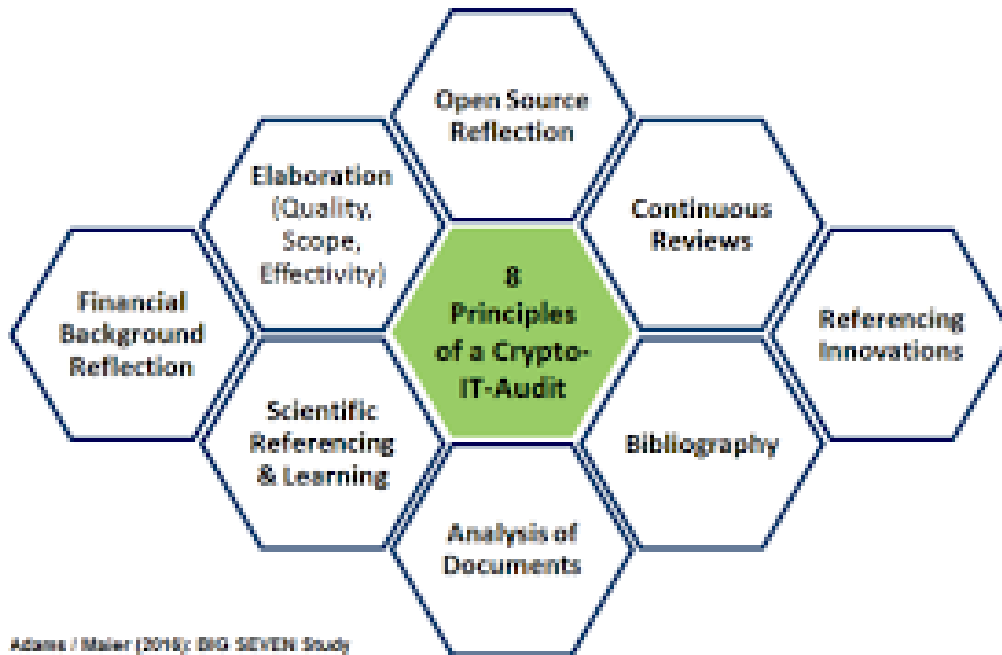I.T Auditors are paid between $600-$1500 per day !

Definition

"The process of collecting and evaluating evidence to determine whether a computer system (information system) safeguard assets, maintains data integrity, achieves organisational goals and effectively and consumes resources efficiently"

Ron Weber

5. Implementing change

2. Set criteria & standards

1. Identify problem or issue

4. Compare performance with criteria & standards

3. Observe practice / data collection

Source: Vital voice and data

I.T Audit

8 Principles of a Crypto-IT-Audit

- Open Source Reflection
- Elaboration (Quality, Scope, Effectivity)
- Continuous Reviews
- Financial Background Reflection
- Referencing Innovations
- Scientific Referencing & Learning
- Bibliography
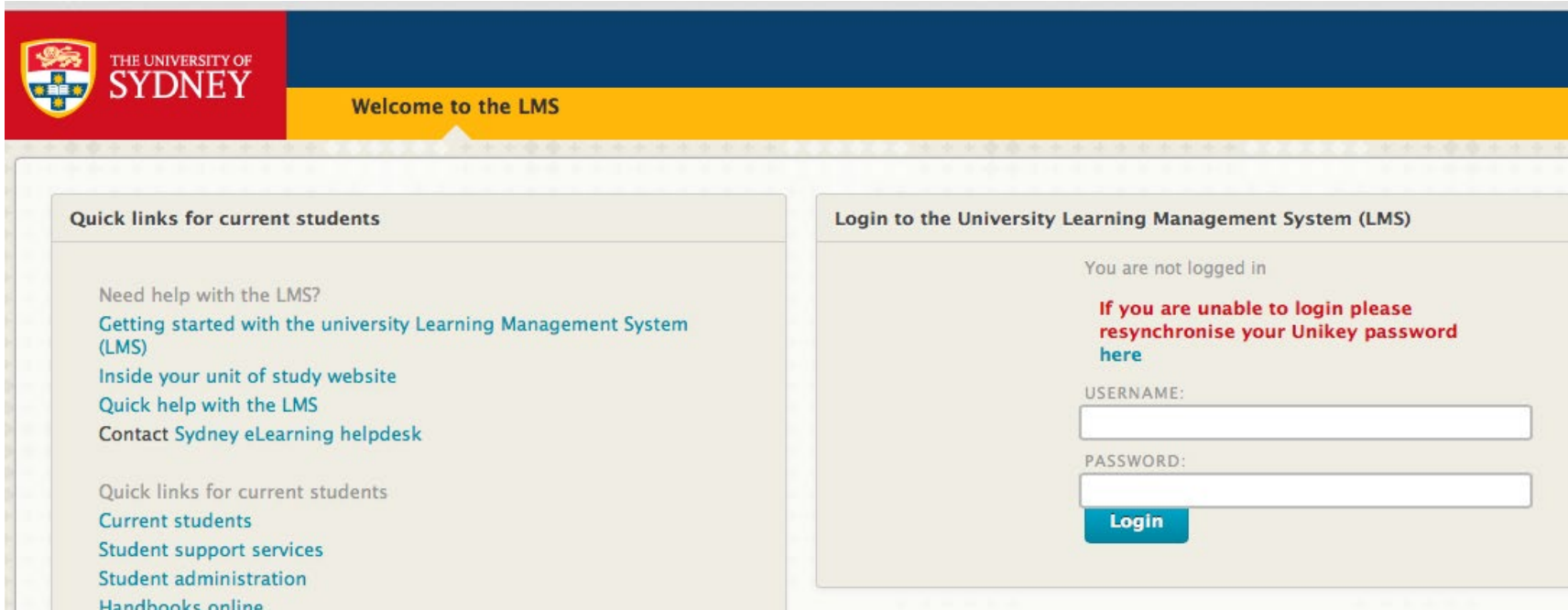- Analysis of Documents

Adams / Maier (2016): BIG SEVEN Study

Source: Active-solutions

Scenario

Congratulations your company has been nominated to do an audit !

You have been nominated to conduct a Information Systems Audit on the University's E-learning site.

Scenario

What is expected to be audited?

What would NOT be covered in the audit?

How would you do this?

Why Audit – 3 areas

S.Anantha Sayana (2002) outlines 3 key areas of concerns that IS Audits need to address:

Availability	Will systems be available for the business at all times when required? Are systems well protected against all types of losses and disasters?
Confidentiality	Will information in the system be disclosed only to those who need it?
Integrity	Will the information provided in the system always be accurate, reliable and timely? What ensures that no unauthorized modifications?

Back to our scenario: Are these concerns relevant to our requirement to audit the University's E-Learning site?

Why is an IS Audit done?

Corporate Governance

Regulatory Requirement

Asset Owner Request

Operations Review
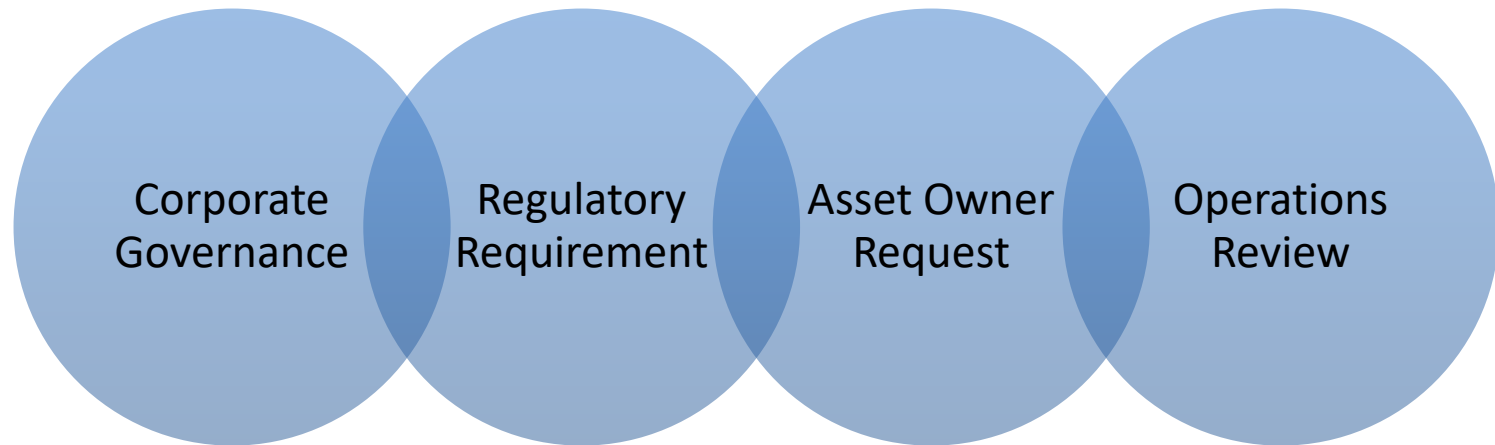
Question

Think of a function in your organisation to be audited

Scope of an IS Audit

- Physical and environmental review
- System Administration review
- Application software review
- Network Security review
- Business continuity review
- Data Integrity review

Could depend on the client sometimes

Audit Risk Based Approach

- Risks can affect each system differently
- Example 1: Non availability of a system
  - Restaurant booking system Vs Company Blog
- Example 2: Unauthorised access to system
  - Online Banking V Hair Salon booking system

Risk Based Approach

1) Conduct an inventory of the information systems and categorise them

2) Identify which systems impact critical functions or assets

3) Assess risks that affect the system assign a severity rating to them

4) Rank Systems and decide audit priority, resources and schedule

The Audit Process

- Preparation

- Formal Kick off

- Audit in progress

- Formal Findings Presentation (Report)

- Follow Up on Corrective Actions

- What else ? Certification in some cases

Key steps in the audit inspection process

PLANNING	PERFORMANCE	REPORTING
• Off-site • Administration • Entry Meeting • Sections 30, 30A and 33 Notices	• Off-site / On-site • Desktop Reviews • On-site Procedures (incl. interviews & file reviews)	• Off-site • Exit Meeting • Write/Issue Report (draft & final)

Leg Stretch

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Lecture 03B Quality Assurance

Agenda
Quality Assurance Concepts and Techniques

- Definition

- Key Concepts

- QA standards

- Final Comment

Definition

Quality assurance (QA) is a **process-centered approach** to ensuring that a company or organization is providing the best possible products or services.

It is **related to quality control**, which focuses on the end result, such as testing a sample of items from a batch after production. Although these terms are sometimes used interchangeably**,**

Quality assurance focuses on enhancing and improving the process that is used to create the end result, rather than focusing on the result itself. Among the parts of the process that are considered in QA are planning, design, development, production and service.

Source: http://www.wisegeek.com/what-is-quality-assurance.htm

Or simply

Quality assurance systems emphasize catching defects **before** they get into the final product.

Key Concepts

It is a proven management concept

- "Consistently do things right, the first time"
- "Continuous improvement"
- Avoiding mistakes and defects

- Examples of pioneers in this approach ?

Examples of this

Which global organisations have led the world in this ?

Who else – has a perception of quality & why ?

Key Concepts

- General view about quality systems is that although people makes mistakes, most errors stem from faulty processes or systems, and training of people ?

Do you agree?

Key Concepts

- Implementing quality systems require integrity ethics, training, trust, leadership, teamwork, communication and recognition to be present in an organisation.

Why?

How does QA relate to IT?

Source: dreamstime.com

QA Standards

QA Standards are a set of standards that a company chooses to implement to show to their customers they are committed to delivering quality products and services to their customers.

Do you know of any standards?

Source:portalsmn.gov

QA Standards

- The ISO 9000 is the most recognised standard used.

- It is an international standard

- Conformance to ISO 9000 is said to guarantee that a company delivers quality products and services

QA Standards

- ISO 9000 is a series of standards developed and published by Interanational Organisation for Standardisation (ISO)

- Each industry will have its own ISO 9000 standard

- ISO Standards get reviewed regularly. Current standard is version ISO 9001:2008. Next update expected ISO 9001:2015

Certification

- It can take any where from 6 to 18 months for an organisation to go through its certification process

- Costs can be up towards hundreds of thousand of dollars to millions again, depending on the size and complexity of the organisation

Certification

- Why do it?
  - Customers require it
  - Powerful marketing tool
  - Reap improvements as a result of meeting the standards

  - An organisation needs to determine if ISO is "for them"
  - Get more work ?

Advantages of a Quality System

- Companies strive for a total quality systems because quality is what the customer demands.

- Ensure that products and services provided meet customer requirements.

- Ensure consistency in the day to day operations.

- Ensure that processes are repeatable and predictable.

- Allow the company to create and retain satisfied customers

- Improve the efficiency, reduce operating cost and minimize unproductive time. All of these features are important in having a competitive company.

Case Study: Military Communications

CLIENT WANTS TO MAKE SURE
System does not fail in a battlefield QA & Audit exercise

https://www.youtube.com/watch?v=eBbWQ3XQgPM

My own Siemens Defence Systems example in the U.K

Tip's for the day

- Remember your readings
- They are not there to pad the course
- Those who do not read them now struggle later in the course !
- I cannot force you to pass !
- Also – you need to contribute in the tutorial's – discussion and dialogue is an important learning method for this course.