Process-based Auditing

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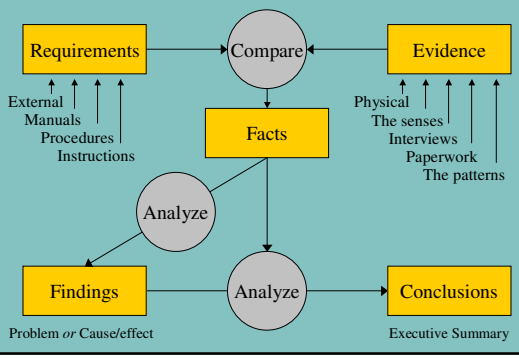
June 2007

What is an Audit?



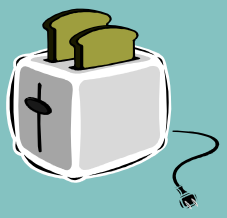
We will use a case study

- Small city bank (Security First Bank)
- Head Office and 3 Branches in suburbs
  - Customer Service Department (includes tellers)
  - Credit Department
  - Regulations and Compliance Department
  - IT Department
  - Business Development and Marketing Dept.

Step 1: What do they make?

ISO 9000:2000 defines "product"

1. Tangible manufactured goods (widgets, cars)



ISO 9000:2000 defines "product"

2. Tangible processed items (foods, chemicals)

ISO 9000:2000 defines "product"

3. Software (instructions to computers)

ISO 9000:2000 defines "product"

4. Service activities

These are the four kinds of product:

1. Tangible manufactured goods
2. Tangible processed items
3. Software instructions
4. Service activities

ISO 9000:2000 defines *product* as the result of a *process*!

What does a bank do?

- Manage money
  - Receive assets
  - Disburse assets
  - Provide statements
- Make loans
  - Personal loans
  - Automobile loans
  - Small business loans

Step 2: How do they make it?

Processes make everything!

Input → Transform → Output

A change occurs

3 kinds of business processes:

- Factory processes
  (also called *product realization* processes)
- Business support processes
  (also called *administrative* processes)
- External interface processes
  (also called *customer* and *supplier* processes)

Products are the result of processes

Product realization processes

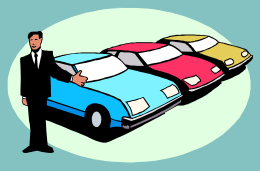
- Assembling
- Coating
- Cooking
- De-icing
- Fastening
- Growing
- Inspecting
- Moving
- Operating
- Quilting
- Riding
- Sequencing
- Serving
- Teaching
- Testing
- Washing

Business support processes

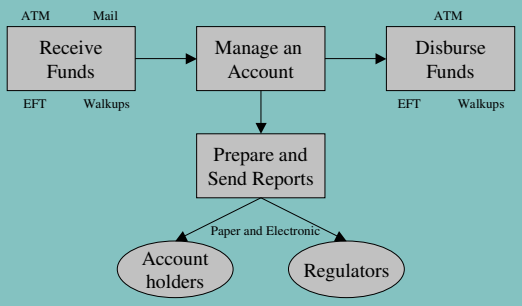
- They all support production
- Typical functional departments:
  - Maintenance
  - Quality, Environment, Safety, Security
  - Accounting, Information Technology
  - Purchasing, Human Resources, Training
  - Production Planning
  - Design, Development, Engineering

External interface processes

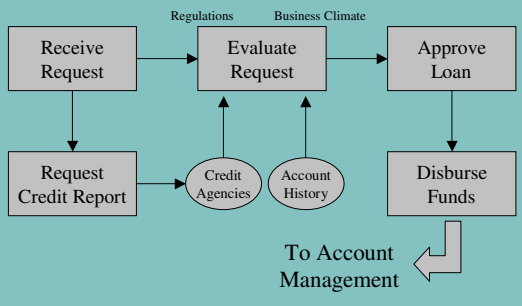
- Also called customer oriented processes (cops) and supplier oriented processes (sops)
- Typical departments:
  - Marketing
  - Sales
  - Customer support
  - Shipping
  - Design requirements
  - Purchasing



Manage Money Processes



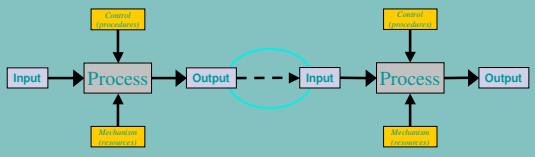
Make Loans Processes



We're still doing a *system* audit!

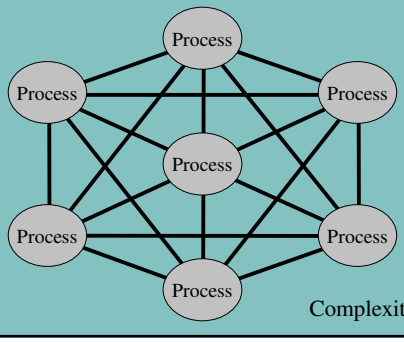
- System: Several processes, linked together, to achieve a common objective.
- Money management system = receiving funds + managing an account + disbursing funds + preparing reports + sorting financial data + interacting with customers + entering a PIN into an ATM + updating software + …
- *Process audit* examines **only one** process at a time.

Systems are linked processes



System: Processes working together to achieve a common goal.

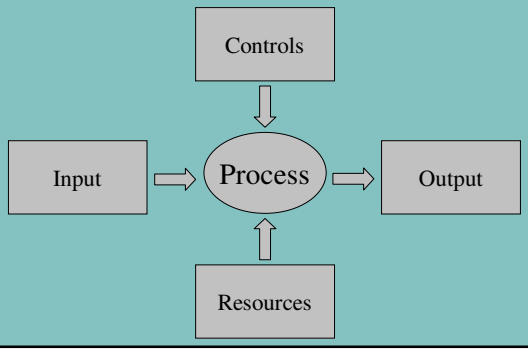
Systems are linked processes



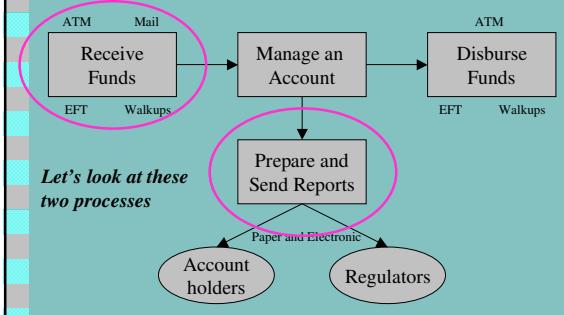
Complexity rules!

Step 3: Understand processes

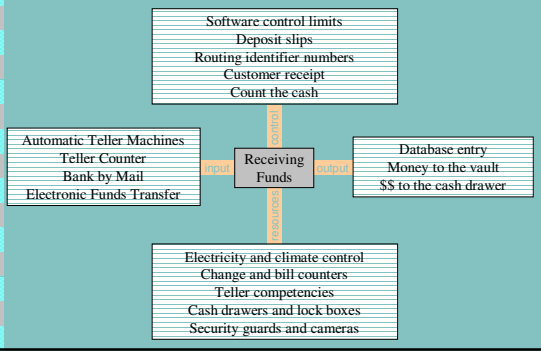
Universal process model



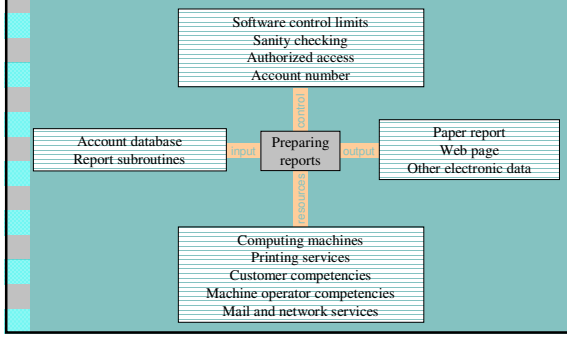
Banks Manage Money



Receiving funds process



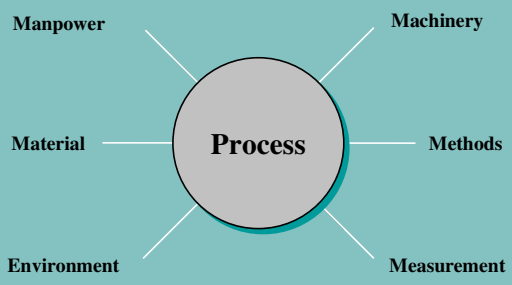
Preparing reports process



Is there a better way?

- Simple four-box approach requires significant concentration
- What about tapping previous work on how processes behave? (Such as Ishikawa)

Universal process affecters



Universal process affecters

- **Methods**: These are the instructions we provide for the task. Often called *documents*.
- **Material**: These are the things used by the process.
- **Manpower**: (and womanpower!) These are the human competencies needed.
- **Measurement**: These are the data taken of the process and their use.
- **Machinery**: This is the equipment used to perform the action.
- **Environment**: These are the outside influences on the process.

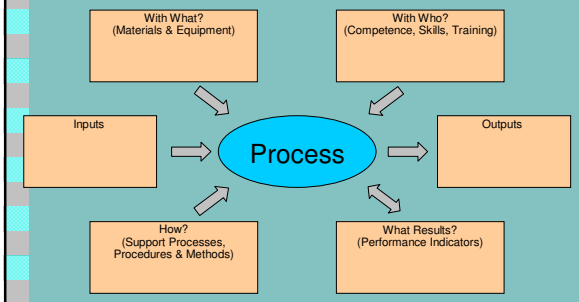
Receiving funds process

- Methods
  - SOP for tellers
- Material
  - Deposit slips
- Manpower
  - Ability to count
- Measurement
  - Count the cash
- Machinery
  - ATM maintenance
- Environment
  - Glare on terminal screen

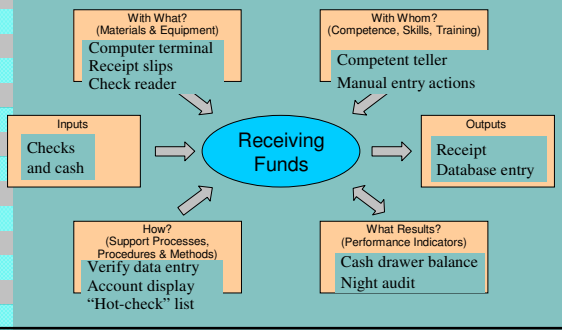
Whoa! Now it's too much!

- How about something halfway?

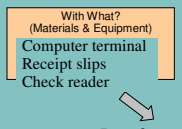
Turtle diagram



Do the Turtle for our example

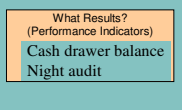


Step 4: Define information needs



- Is software release 20.56 in use? (Approved vendor release)
- Are passwords changed weekly? (Security Inst. 25)
- Are 250 receipt slips available at all times? (Customer Service Std. 12)
- Were the last 20 checks run through the verification machine? (Teller SOP 2)

Step 4: Define information needs



- Are cash drawer balance checks performed four times daily? (SOP 6)
- Are night audits performed after each business day? (Corp. Policy 17)
- Are system checks evaluated by supervisors? (Corp. Policy 18)
- Have quality performance goals been established and communicated to staff? (HR Method 034, part 6)

Progress so far

- Step 1: Define the products
- Step 2: Define the processes by flowcharting
- Step 3: Study the processes through turtle diagrams
- Step 4: Define information needs (objective evidence)

Step 5: Gather objective evidence

- This is the fieldwork and starts after the opening meeting.
- You need to walk the processes (*tracing*) and interview the people performing the tasks. (You go to them.)

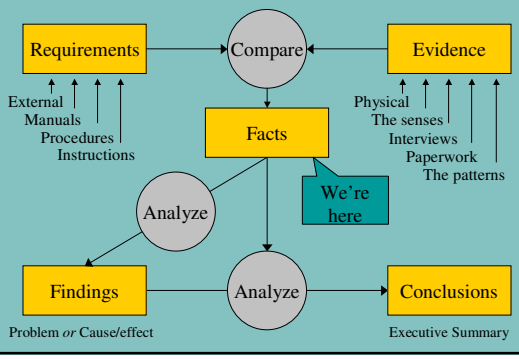
Gather data, for example:

- Computer network was down for a total of 25 minutes during the month of July.
- Tellers backed up data for the seven shift changes examined.
- Hill Street branch experienced 3 cash machine paper receipt jams in June.
- Generic deposit slips were available at all teller stations.

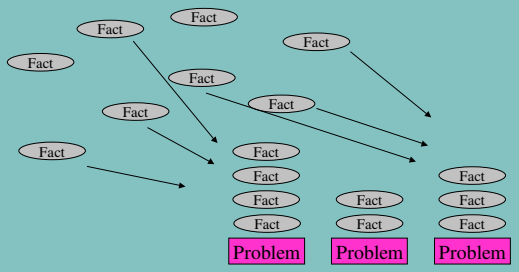
Gather data, for example:

- 6 of 48 overhead lamps were non-functional at the Charles Circle branch on Friday.
- All tellers are examined for math and communication skills prior to hire.
- Backup server was loaded with out of date data files on July 12.
- Bill sorting machine malfunctioned on July 3 and again on July 9.

Audit Model



Step 6: Analyze data by sorting



Data Chunking

Sorting our bank data

Equipment maintenance
- Network down
- Backup server data
- Bill sorting machine
- Doors, locks, and keys
- Cash machine jams
- False security alarm

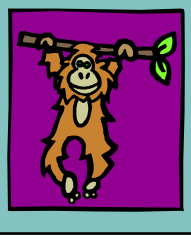
Teller competencies
- Confusing debit and credit
- Cash drawer daily audit

No pattern
- Key-in entry mistake
- Coins falling out of rabbit

This becomes a *Finding*

Turn the piles upside down:

- Statement of the system control problem
  - Bad fact
  - Bad fact
  - Bad fact
  - Bad fact



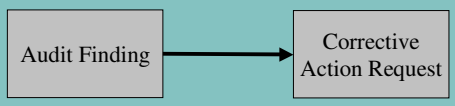
Step 7: Present conclusions

Equipment is not routinely kept in proper working condition.

- Computer network was down for a total of 25 minutes during the month of July.
- Backup server was loaded with out of date data files on July 12.
- Hill Street branch experienced 3 cash machine paper receipt jams in June.
- Bill sorting machine malfunctioned on July 3 and again on July 9.
- Three branches experienced entry door lock jamming this year. One resulted in a key breaking.
- Oak Lawn branch experienced a false security alarm on July 20. Police responded.

This is called a *finding sheet*

What next?



Output of audit becomes input to corrective action!

•Finding requires *corrective action*

•Bullets require *remedial action*

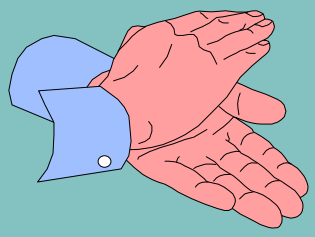
The Process approach to audits

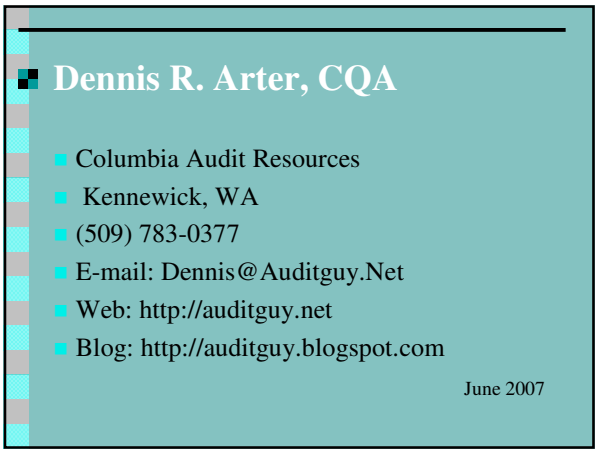
- Step 1: Define the products
- Step 2: Define the processes by flowcharting
- Step 3: Study the processes through turtle diagrams
- Step 4: Develop objective evidence needs
- Step 5: Gather objective evidence (fieldwork)
- Step 6: Analyze data to form finding sheets
- Step 7: Report your conclusions
- Step 8: Address problems through remedial and corrective actions

Conclusion

- We must first understand the (business) processes to be audited and how they relate to the objectives of the enterprise.
- We then gather field data on how those processes are being controlled.
- We present conclusions in a way that shows the way strengths and weaknesses affect the business.

Thank you for your kind attention!

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June 2007