AN INTRODUCTION TO BUSINESS PROCESS MAPPING AND VISIO

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LEARNING OBJECTIVES

1. Introduce common process map styles/techniques
2. Create a multi-purpose process map that is easy to follow
3. Key components of a process map for review by finance leaders and auditors (Marquette’s story)
4. Efficient use of Microsoft Visio software
WHY DOCUMENT A PROCESS?
WHY DOCUMENT A PROCESS?

Identify opportunities for improvement
• Automation
• Standardization
• Accuracy
• Internal controls
• Conserve resources
• Eliminate waste

Communication
• Training
• Documentation
• Defining new process
• How it REALLY works

Other?
PROCESS MAP OPTIONS (a few)

Value Stream Mapping

- Direct observation (usually)
- Detailed; tracks a specific product/output thru a process
- Value is defined from customer’s perspective
- Highlights waste in process cycle time, wait time, inventory, buffers
- Useful for:
  - Beginning of projects to provide shared view of “as is” process
  - Demonstrating where/how improvements will benefit the process
  - Implementing LEAN processing
PROCESS MAP OPTIONS (a few)

LEAN

- Focus on more value, less waste; standardization
- 8 Wastes defined as DOWN TIME
  - Defects
  - Over Production
  - Waiting
  - Not engaging everyone
  - Transportation
  - Inventory (storage)
  - Motion
  - Extra processing
PROCESS MAP OPTIONS (a few)

SIPOC

• Supplier – Input – Process – Output - Customer
• Flexible – high level or more detailed view
• Trace input/output thru process steps

https://www.youtube.com/watch?v=_2_ljfg4EVk
GROUP ACTIVITY: SIPOC

Process: Cupcakes for a school carnival *or* Salad for pot-luck dinner

1. Define the process – what are your bookends?
2. What are the top level process steps (tasks)? 4-8; no decisions; no loops
3. What are the key outputs of each step? 3-4 primary
4. Who receives the outputs? Is it an input to the next step?
5. List the inputs for each task.
6. Determine who supplies each input.
7. Confirm with stakeholders. (Share with your group.)
8. Document where uncertain, need clarification, or ideas to improve
Swim Lane (Makigami)

- Can be developed from a SIPOC
- Clearly documents sequential tasks, responsible parties, deliverables, improvement opportunities, decision points, rework loops.
- Capture cycle times, delays, lead time and redundancies.
Questions so far?
IN THE BEGINNING…

- Annually, updated process memos for external audit.
- External auditors prepared process maps
- Consultants drafted maps during R12 FitGap

DIV AP Map.PNG
DIV Map2.PNG
AP FitGap Map1.PNG
MU Finance Objectives

- Document current processes for analysis
- Document proposed future processes for approval & use in training
- Understand the risks within each process
- Ensure the adequacy of internal controls
- Identify opportunities to improve:
  - Efficiency (simplify)
  - Effectiveness (accuracy, controls)
  - Reporting (KPIs, data, etc.)
Level of Detail

- **Mega Process** (approx. 10)
  - PTP, HTR, RTR
  - VP to Director level (e.g., *Mission Statement*)

- **Process** (approx. 50)
  - Purchasing, Vendor Set Up, AP, Payments
  - Director to Assoc. Director level (*Aging of AP*)

- **Sub-Process** (approx. 200)
  - Checks, Treasury Wires, Quick Pays
  - Assoc. Director to Staff (*Flowchart*)

- **Micro Process (Activity Level)** (1,000s)
  - Check printing, Formatting, Positive pay file
  - Staff (*Work Instructions, Training Materials*)
Marquette University – Mega Processes

- **ATI Awareness to Inquiry** - Marketing programs designed for target customers
- **RTR Record to Report** - All financial infrastructure, GL entries, reconciliations and reports
- **HTR Hire to Retire** - Recruiting new hires, on-boarding, benefits, payroll and termination
- **PTP Purchase to Pay** - Purchasing, supplier bidding & selection, payment processing
- **ATT Admission thru Tuition** - Enroll students, bill tuition and services, receivable-to-payment
- **SRM Student Relationship Management** - Student services and legal compliance programs
- **DTA Donate to Allocate** - Soliciting and receiving gifts, determining how to spend/allocate
- **ATR Acquire to Retire** - Procuring fixed assets, configuring depreciation, preventive maintenance and disposals
- **GAC Grant Awards & Compliance** - Proposal requests, awards, allocation, compliance & rptg
- **ESS Enterprise Systems & Services** - IT infrastructure and support services

*Note - this is a process centric approach to governance. Alternate approaches can be departmental or structural.*
Document Standard
Defined by Offices of Finance, Internal Audit, EBS Upgrade Project Team

1. Simplify
   - Use color sparingly
   - Only one output per shape

2. Condense
   - Target 1 page on 11 x 17
   - Consolidate data
   - Flow left to right / top to bottom

3. Standardize
   - Shape sizes
   - Fonts / Titles / Descriptions
     - “Textbook Quality”

4. Organize
   - Preparer / Reviewers
   - Process Number
   - Version Control
   - SharePoint to maintain

5. Deliverables
   - Process sequence
   - Roles & responsibilities
   - Financial & operational controls (yellow)
   - Improvement opportunities
(1) The AP Supervisor or Manager runs the Preliminary Register which lists all invoice detail by line item, check numbers and dollar amounts. This information is manually documented on the Cash Disbursement Report which acts as a hardcopy check register. Two copies of the Cash Disbursement Report are distributed as follows to:

- The Accounting Manager to verify the Positive Pay file prior to transmission, and
- The Treasury Dept. to verify the amounts to fund into the US Bank account.

(2) Samba is an application which bridges the Unix / Linux operating systems with Windows. This application allows the Accounting Manager to access the positive pay file in Windows and transmit it to US Bank.

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### Segregation of Duties (SoD) & Sensitive Access (SA)

**SA1** – Check stocks are kept in the custody of the Accounting Manager (holds key) and the Assistant Comptroller to ensure proper safeguarding. Either the AP Manager or Supervisor loads the checks into the printer.

**SA2** – Access to generate the positive pay file is restricted to the AP Manager and Accounting Manager.

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(1) The AP Manager or Supervisor reviews the Preliminary Register prior to running the payment batch to identify any unusual vendors or payment amounts. Any unusual items are investigated and corrected if necessary prior to payment processing.

(2) Checks greater than $100,000 and their supporting documentation are provided to the VP of Finance for review and signature approval to ensure validity and accuracy.

(3) The AP Manager or Supervisor verifies the number of checks against the number of invoice payments to be made in all distribution categories to ensure completeness and accuracy, prior to the checks being mailed out.

(4) The Accounting Manager verifies the weekly positive pay file against the Cash Disbursement Report for validity, completeness and accuracy, prior to transmitting to US Bank.

(5) US Bank confirms receipt of the positive pay file transmission with total count of the number of items and dollar amount. This is verified in Accounting to ensure complete and accurate transmission of payment data. In addition, positive pay prevents any unauthorized checks from being paid out of Marquette University’s accounts.

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Key Components for Finance & Audit

- **Internal Controls:**
  - Prevent or detect errors or irregularities (risks)
  - **Preventive:** Passwords, Segregation of Duties, keycard access, etc.
  - **Detective:** Reconciliations, mgmt reviews, exception reports, etc.
  - **Compensating:** When ideal controls don’t exist for reasons such as limited resources. Usually detective, back end controls.

- **Risks – what can go wrong in a process?**
  - Validity
  - Completeness
  - Recording Propriety
  - Safeguarding of Assets
  - Timeliness
  - Subsequent Accountability (i.e., Monitoring)

- **Design internal controls to mitigate those risks**
Key Components for Finance & Audit

Various Controls

1. **Authorization Procedures** – individuals with proper training & experience
2. **Segregation of Duties** – physical separation of critical functions (execution, custody, recording & reconciliation)
3. **Documentation** – data integrity & audit trails to strengthen report reliability
4. **Access Controls** – physical access to valuable, confidential, or sensitive assets is restricted
5. **Independent Internal Verification** – Internal performance standards are verified and monitored
SoD & SA

Segregation of Duties
To ensure that no one person within the organization can both perpetrate & conceal errors and/or irregularities in the normal course of business.

Sensitive Access
To ensure critical, confidential and/or powerful access is restricted to authorized and competent personnel.

Company-wide key controls supporting:
- Financial Statement Integrity
  - e.g. General Ledger posting vs. cash receipts
- Operational / Transactional Credibility
  - e.g. vendor set up vs. vendor payment
- Data & Metric Reliability
  - e.g.
- Protection of Confidential Information
  - social security numbers, payroll, student information, etc.
GROUP ACTIVITY: SWIM LANE

Process: Going to grocery *or* Your Choice (business process)
1. Define the process – what are your bookends?
2. Identify the departments/functions involved – a lane for each
   (green or purple post-its).
3. Identify all steps in the process and lay them out in time sequence.
   a. Pink = for manual steps
   b. Light blue = for automated steps
   c. Yellow = decisions (turn as a diamond)
4. Identify issues or improvement opportunities (small pink post-its)
5. Identify internal controls (financial, operational)
Process Review - Tips

- What is the goal?
- **Know suppliers** (inputs) & **customers** (outputs)
  - Understand their needs
  - Their needs = your expectations
- **Metrics & measurement** (volume; materiality)
- **Keep it simple** (more complexity=more errors)
- **Technology always supports the business**
  - Process should work first, technology enhances it
  - Then staff the positions with people
Process Review - People

- People are not computers
- Clearly state the goals of process review/mapping
  - Be inclusive (should feel like part of the improvement process).
  - If results could be reductions in overtime ($$$) or staff or changes to position, be honest and empathetic.
- Read them
  - Eager or Nervous, Trusting or Defensive
  - Distracted by other priorities?
- Be comfortable with ambiguity
  - Ask painfully obvious questions.
  - You may not be the expert!
Process Review - People

**Suggested Questions**

- What could go wrong? How could we fail?
- What activities are the most complex?
- How could someone disrupt our operations?
- What keeps you up at night?
- Is there anything I wasn’t smart enough to ask?
Flowcharting Practice

- Flowcharting Etiquette
  - Use swim lanes to identify Departments involved
  - Left to Right, Top to Bottom
  - Name & number flowcharts & reference where they connect to other flows
  - Document the preparer and the source of the information for reference

- Identify the inherent risks, potential errors or irregularities from one process step to another

- Determine whether controls exist to ensure:
  - Process steps are **COMPLETE**
  - Transactions are **VALID**
  - Steps are **RECORDED PROPERLY**
  - Assets involved are adequately **SAFEGUARDED**
  - Procedures are performed in a **TIMELY** manner
  - **MONITORING** controls are in place
Visio examples

Grocery example
Microsoft Office – Visio Training / Help
Questions?

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