ISYS90081

BUSINESS PROCESS MANAGEMENT
WORKSHOP WEEK 6

YOUR TUTOR

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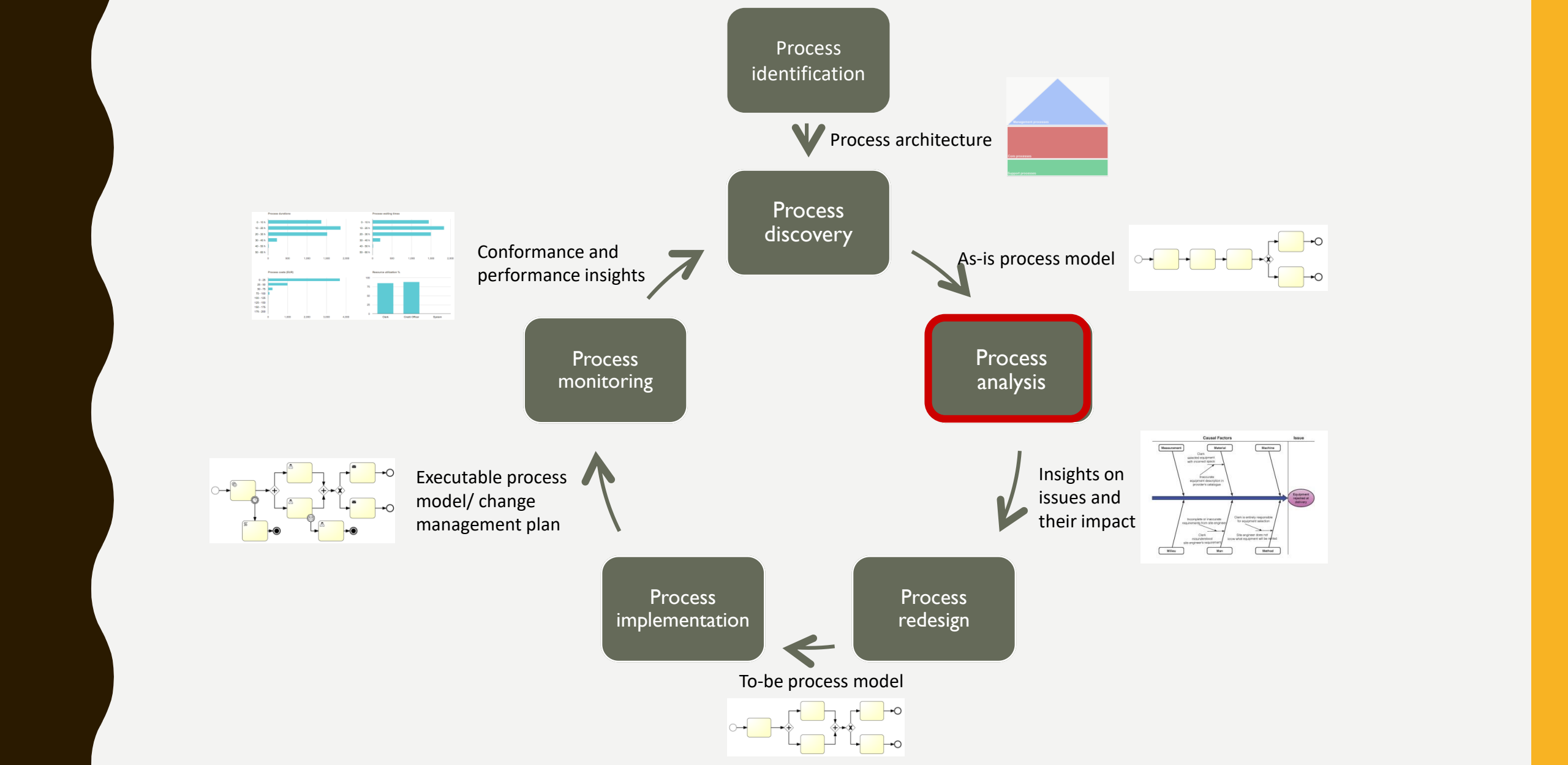
- Here, you can find my workshop slides:
- https://github.com/winnchow/ISYS90081-Tutorials

THE BPM LIFECYCLE



VALUE-ADDING ACTIVITIES (VA)

Maximize

Produce value or satisfaction to the customer

Criteria

- **Is the customer willing to pay for this step?**
- **Would the customer agree that this step is necessary to achieve their goals?**
- **If the step is removed, would the customer perceive that the end product or service is less valuable?**

Examples

- Order-to-cash process: Confirm delivery date, Deliver products
- University admission process: Assess application, Notify admission outcome

BUSINESS VALUE-ADDING ACTIVITIES (BVA)

Minimize

Necessary or useful for the business to operate

Criteria

- **Is this step required in order to collect revenue, to improve or grow the business?**
- **Would the business (potentially) suffer if this step was removed?**
- **Does it reduce risk of business losses?**
- **Is this step required in order to comply with regulatory requirements?**

Example

- Order-to-cash process: *Check* purchase order, *Check* customer's credit worthiness, Issue invoice, Collect payment, Collect customer feedback
- University admission process: *Verify* completeness of application, *Check* validity of degrees, *Check* validity of language test results

NON-VALUE-ADDING ACTIVITIES (NVA)

Remove

Everything else besides VA and BVA. Steps the customer would be unwilling to pay for

Incudes

1. **Handovers, context switches**
2. **Waiting times, delays**
3. **Rework or repetition to correct defects/errors**

Examples

- Order-to-cash process: *Forward* PO to warehouse, *Re-send* confirmation, *Receive* rejected products
- University admission process: *Forward* applications to committee, *Receive* admission results from committee, *Rectify* evaluation result

ACTIVITY 1: VA, BVA OR NVA?

Step	Performer	Classification
Drop prescription	Customer	
Wait	Customer	
Nominate pick-up time	Customer	
Put prescription in a labeled box	Technician	
Pick-up prescription for the box	Technician	
Enter prescription details	Technician	
Review alarm (if DUR raised an alarm)	Pharmacist	
Call doctor (if DUR raised an alarm)	Pharmacist	
Call doctor (if insurance policy does not cover the drug)	Pharmacist	
Collect drugs into the bag	Technician	
Double-check the bag	Pharmacist	
Pick up the bag	Customer	

SEVEN SOURCES OF WASTE

Move

- Transportation
- Motion

Hold

- Inventory
- Waiting

Over-do

- Defects
- Over-Processing
- Over-Production

MOVE

TRANSPORTATION

Send or receive materials or documents (incl. electronic) taken as input or output by the process activities

"chatty" process

Example

University admission process: to apply for admission at a university, students fill in an online form. When a student submits the online form, a PDF document is generated. The student is requested to download it, sign it, and send it by post together with the required documents:

1. Certified copies of degree and academic transcripts
2. Results of language test
3. CV

When the documents arrive at the admissions office, an officer checks their completeness. If a document is missing, an e-mail is sent to the student. The student has to send the missing documents by e-mail or post depending on document type.

MOTION

- **Motion of human resources internally within the process**
- **Common in manufacturing processes, less common in service processes**

Examples

- Vehicle inspection process: a process worker moves with the inspection forms from one inspection base to another; in some cases inspection equipment also needs to be moved around (motion + transportation)
- Application-to-approval process: a process worker moves around the organization to collect signatures

HOLD

INVENTORY

"just in time": avoid over-stocking
to reduce stocking costs

- **Materials inventory (raw materials or produced products) stocked more than required**
- **Work-in-process: WIP = λ • CT ("Little's Law")**

Examples

- Vehicle inspection process: when a vehicle does not pass the first inspection, it is sent back for adjustments and left in a pending status. At a given point in time, about 100 vehicles are in the "pending" status across all inspection stations
- University admission process: About 3000 applications are handled concurrently

"batch processing" vs "straight-through processing"

WAITING

- **Task waiting for resources (task idleness)**
- **Resource waiting for work (resource idleness)**

Examples

- Vehicle inspection process: A technician at a base of the inspection station waiting for the next vehicle
- Application-to-Approval process: Request waiting for approver
- University admission process: Incomplete application waiting for additional documents; batch of applications waiting for committee to meet

OVER-DO

DEFECTS

Repeat a task: scrap and redo from scratch

- **Repetitions or reworks to correct a defect/error**

Fix/revise without repeating the task from scratch

Examples

- Vehicle inspection process: A vehicle needs to come back to a station due to an omission
- Travel approval process: Request sent back to requestor for revision
- University admission process: Application sent back to applicant for modification; request needs to be re-assessed later due to incomplete information

OVER-PROCESSING

- **Tasks performed unnecessarily given the outcome of the process**
- **Unnecessary perfectionism**

Examples

- Vehicle inspection process: technicians take time to measure vehicle emissions with higher accuracy than required, only to find that the vehicle clearly does not fulfill the required emission levels
- Travel approval process: 10% of approvals are trivially rejected at the end of the process due to lack of budget
- University admission process: Officers spend time verifying the authenticity of degrees, transcripts and language test results. In 1% of cases, these verifications uncover issues. Verified applications are sent to the admissions committee. The admission committee accepts 20% of the applications it receives

OVER-PRODUCTION

- **Producing more than required**
- **Unnecessary process instances are performed, producing outcomes that do not add value upon completion**

Examples

- Lead-to-order process: In 50% of cases, issued quotes do not lead to an order
- Travel approval process: In 5% of cases, travel requests are approved but the travel is cancelled
- University admission process: About 3,000 applications are submitted, but only 600 (20%) are considered eligible after assessment

Improve communication with students to avoid submitting ineligible applications in the first place (reduce over-production)

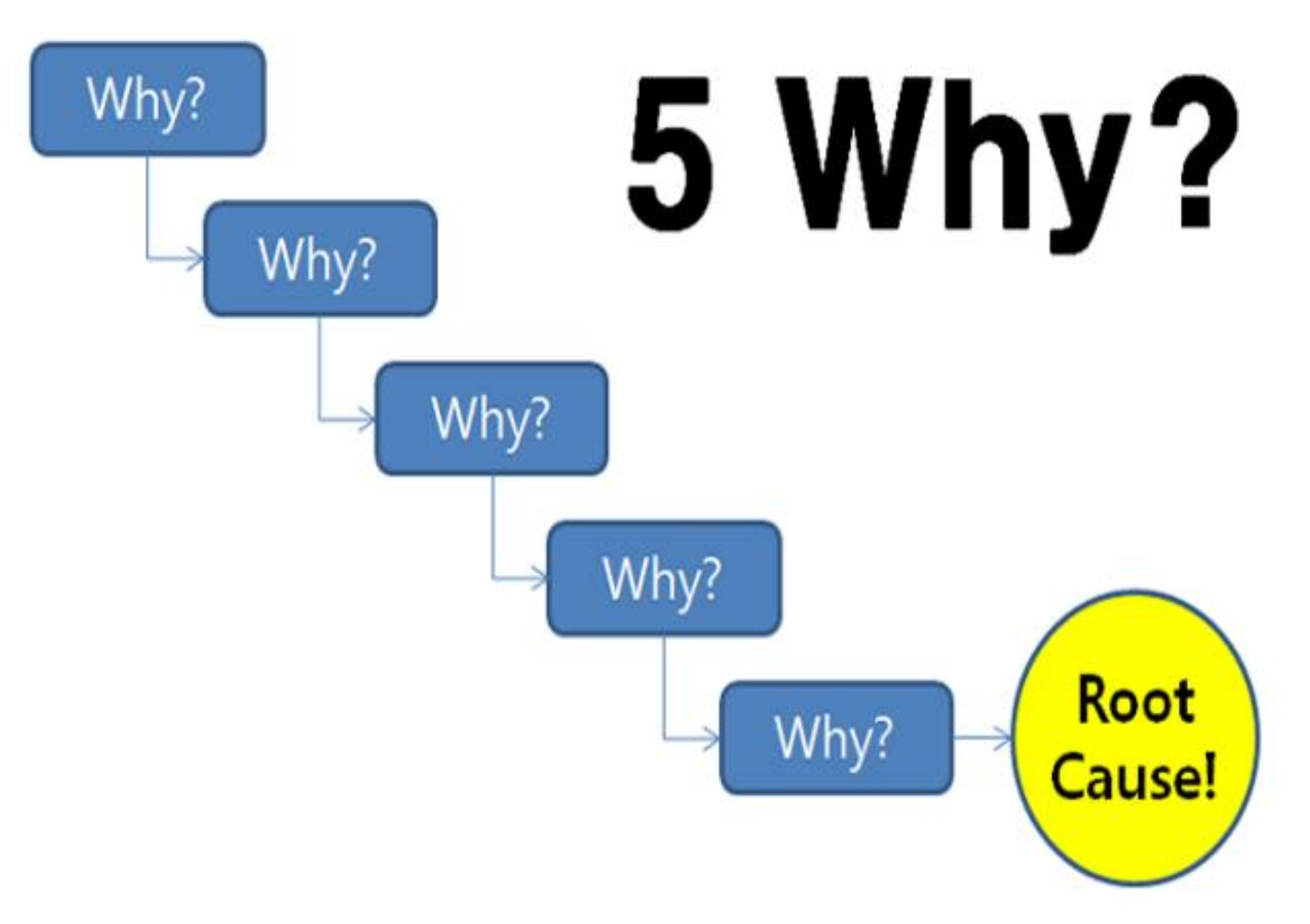
OVERPROCESSING VS. OVERPRODUCTION

- **Overprocessing** occurs when it is *necessary to start the process* instance in order to discover that the instance *cannot be fulfilled*
- **Overproduction** occurs in two cases:
  - When the instance ends up in a *positive outcome*, but it turns out that the instance was *not needed*.
  - When the instance ends up in a *negative outcome* that could have been *foreseen* prior to the instance being created.

ISSUE REGISTER

Issue Name:	
Priority:	
Description:	
Assumptions:	
Qualitative impact:	
Quantitative impact:	

WHY-WHY DIAGRAM



Source: https://www.taproot.com/5-whys-and-a-who-do-we-fire/