# ISYS90081

BUSINESS PROCESS MANAGEMENT
WORKSHOP WEEK 6

# YOUR TUTOR

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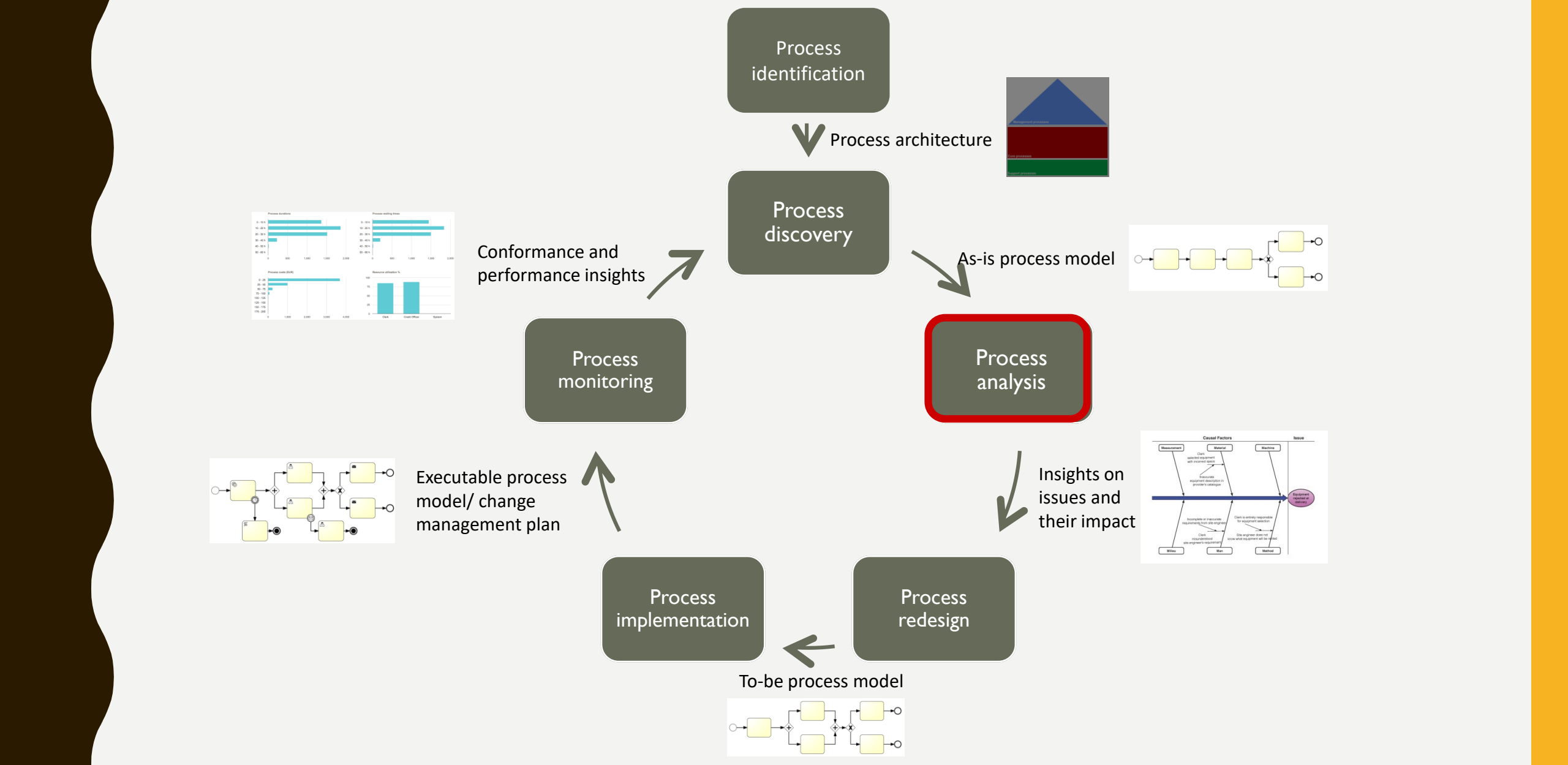
- Here, you can find my workshop slides:
- https://github.com/winnchow/ISYS90081-Tutorials

# 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)


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 / Task | Performer | Classification |
|---|---|---|
| Drop prescription | Customer | |
| Request immediate fulfilment | Customer | |
| Wait | Customer | |
| Nominate pick-up time | Customer | |
| Put prescription in a labelled box | Technician | |
| Pick-up prescription from the labelled box | Technician | |
| Enter prescription details | Technician | |
| Perform DUR | Pharmacy IS | |
| Call doctor (if DUR raised an alarm) | Pharmacist | |
| Perform insurance check | Pharmacy IS | |
| Call doctor or/and patient (if insurance check fails) | Pharmacist | |
| Replace drugs (if needed/possible) | Pharmacist | |

# ACTIVITY 1: VA, BVA OR NVA?

| Step / Task | Performer | Classification |
|---|---|---|
| Collect drugs and put them into the bag | Technician | |
| Double check the drugs | Pharmacist | |
| Place bag in the pick-up area | Pharmacist | |
| Wait (if the drugs are not ready) | Customer | |
| Retrieve drugs bag | Technician | |
| Collect payment | Technician | |

# 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 = $\lambda$ · 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)

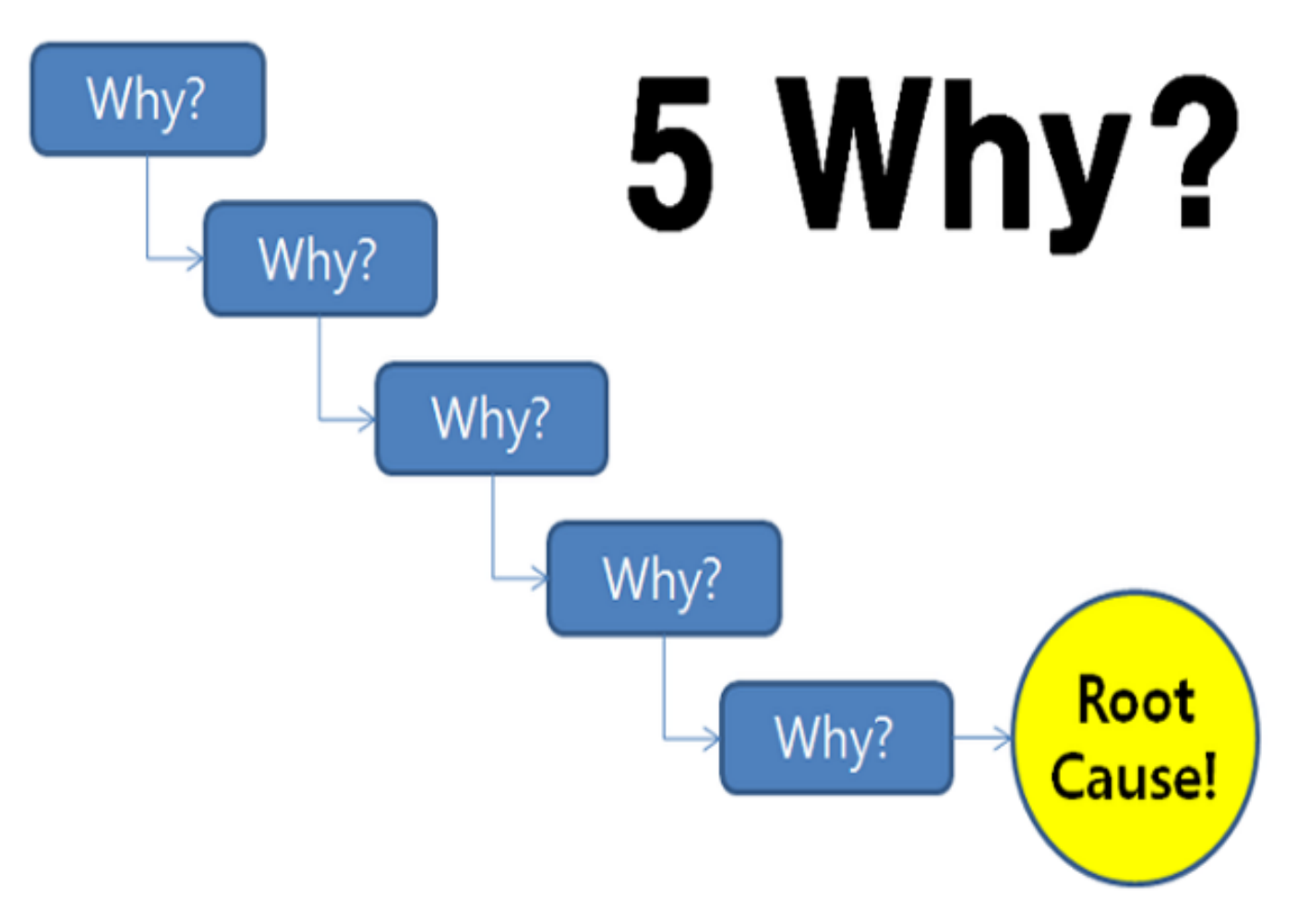
# OVERPROCESSING VS. OVERPRODUCTION

- **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

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