

University of Pisa

MSc in Computer Engineering

Systems for Strategic Management and Support

LECTURE 9

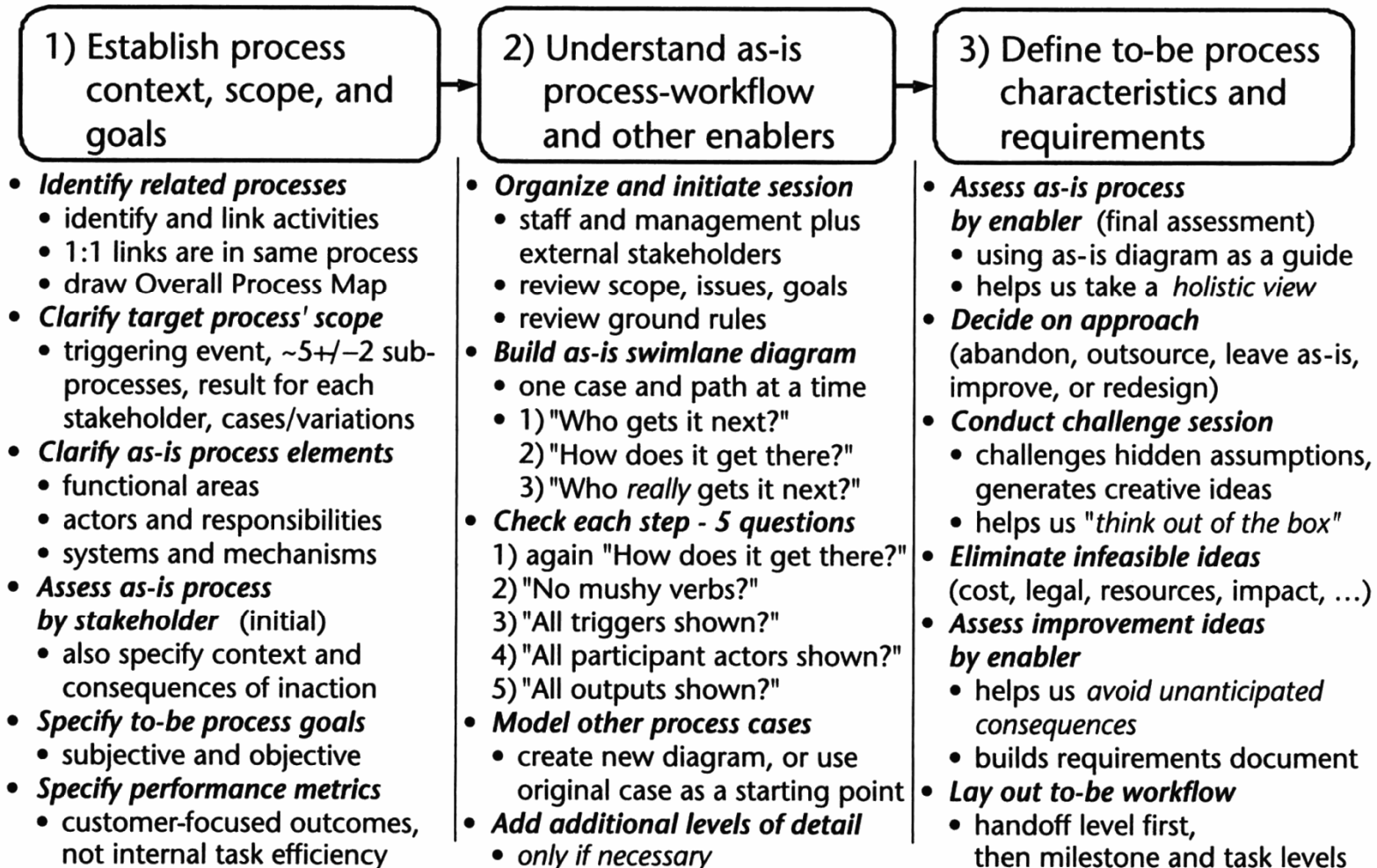
<http://www.iet.unipi.it/m.cimino/ssms/>

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A THREE-PHASES WORKFLOW-DRIVEN METHODOLOGY (Summary)

S205



Three-phase project methodology.

II) ESTABLISH PROCESS SCOPE AND CONTENTS (Summary)

Establish scope and contents of the process (iterative):

S206 - II-1) WHAT the process is:

- a) Triggering events - *what* initiates the process?
- b) Results - *what* are the results expected by customer/stakeholder?
- c) Subprocesses - *what* are the main stages (5 ± 2) of the process?
- d) Cases - *what* are the major variations of the work item
that lead to different flows?

S207 - II-2) WHO is involved in

- a) Participating organizations - *who* participates
- b) Individual actors/responsibilities - *who and what* are main steps

S208 - II-3) HOW it is currently supported

- a) Mechanisms - *how* is the process supported (equipment,...)
- b) Measures - *how* the process behaves via basic statistical measures

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

S209 - II-1-b) Identify Results for each stakeholder

S210 - The results establish the ending point of the workflow model.

S211 - Result (=the expected output) vs. Objective (=a performance target for individual/aggregate instances of the process)

S212 - Some examples of results...

- *order is filled*
- *new product is developed*
- *magazine edition is published*
- *payment is received*
- *employee is hired*

(REMEMBER
SOME OF
THEM)

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

S213 - ...with some corresponding objectives

- *orders will be scheduled into production and a delivery date committed within 12h of receipt*
- *60% of revenue will derive from products introduced in the past 5 years*
- *circulation will be increased to 150,000 by Oct-Dec*
- *advertising revenue will be increased by 10% this year*
- *average cost of posting a payment will decrease by 20% by Dec*
- *turnover will be reduced to 4% per annum within 18 months*

S214 - Objective should relate to organization's KPIs

S215 - Ask to yourself: "is there a next step that must be completed?" or "is there another criteria that must be met?"

S216 - Result statements have two parts: basic results + **additional criteria**

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

- E.g.
 - Order is delivered and accepted
 - Product is launched and is available for purchase
 - Edition is printed and turned over to distributors
 - Payment is received and posted to internal accounts
 - Employee is hired, assigned to a position, and has been issued ID
- S217 - If a checklist of specific criteria has to be completed, use the shorthand “onboarding checklist completed”
- S218 - Differentiate results for specific recipient: *Customers* (service recipient) *Performers*, *Owners* (service provider), suppliers, partners, government, marketplace. *Who else must be satisfied?*
- S219 - E.g. the customer order must be filled (the customer is happy), it must also be paid for (the shareholder is happy), a commission must be paid (the sales agent is happy).

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

S220 - They are all the result from the *same* process because each happens on a 1:1 basis with the same triggering event. → Overcome organizational barriers between operations and finance or other supporting organizations

S221 - Notice: not everyone receiving an outcome from a process has to be identified as a stakeholder expecting a result. A result is one of the **end points** for a process. Do not confuse “a job to do” by a performer with “a result to expect”

S222 - **II-1-c) Identify Subprocesses**

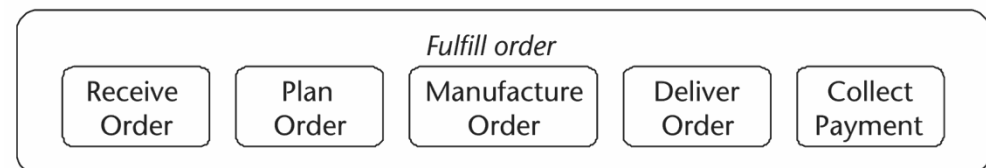
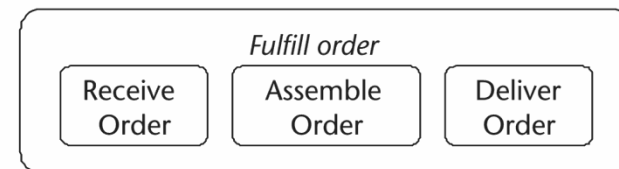
S223 - A subprocess meets some criteria:

- it produces a discrete, countable result
- it achieves a significant milestone for the process result
- it is often something that the organization would count/measure
- it usually achieves an important state change

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

- S224 - Ask “what are the *significant* milestones that must be accomplished between the triggering event and the result of the overall process? There are usually 5 ± 2 subprocesses.
- S225 - Focus on “sunny day case”. The body of work following one milestone and leading up to the achievement of the next milestone is a subprocess
- S226 - Some discovered activities are at a finer granularity than subprocesses. In this case, the emphasis will be on combining activities into subprocesses and filling in the gap.

- E.g. two versions of the Fulfill Order process, one of which includes manufacturing and collections activities



- S227 - → The choice must be made at this stage

Two versions of the Fulfill Order process.

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

S228 - II-1-d) Identify Cases

S229 - A *case* is a version of the process specific to a particular kind of work item (token). Each case is likely to have a substantially different workflow.

S230 - The case is named in *action verb + adjective or qualifier + noun*

S231 - E.g. (process: cases)

- Hire Employee: Hire *temporary* Employee, Hire *regular* Employee
- Fill Order: Fill *new* Order, Fill *replacement* Order,

(REMEMBER SOME OF THEM) Fill *standing* Order

- Receive Shipment:

Receive *consumable* Shipment (for fuel,...)

Receive *indirect inventory* Shipment (for equipment repair,...)

Receive *direct inventory* Shipment (for raw mat/components)

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

- S232 - It is often easy to have a separate diagram for each case, to manage layout complexity by avoiding multiple parallel streams
- S233 - Do not use decision points to illustrate different cases when there are not actually decisions being made:
 - S234 - a case is not something we do on the basis of variation on *how* the work arrives (e.g. by FAX or XML) when the rest of the process is the same, but it is determined by *what*.
 - S235 - a case is not the same as a scenario. A scenario is a *test case* demonstrating a certain set of conditions, with predetermined decisions and outcomes.
 - S236 - for each case of a process we often develop separate process diagrams including more scenarios.

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

S237 - II-2-a) Identify Participating Organizations

S238 - Include external organizations: customers, suppliers, *regulators*

S239 - At this point we are concerned only with organizations with some direct contact with the work item as it goes through the process

S240 - Do not include organizations receiving results or observing performance of the process

- E.g. Organizations in the Fulfill Order process: Customer, Sales, Manufacturing, Logistics, Accounts Receivable

S241 - Draw a process vs. organization chart

S242 - II-2-b) Identify Individual Actors and Main Responsibilities

S243 - For each participating organization, identify the individual actors (typically roles and job functions)

S244 - Then, list the main responsibilities of each actor in the process, in terms of clear *action verb* - *noun* pair.

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

- E.g., an actor in the Customer “organization” for the Fulfill Order process could be a purchasing agent with the following responsibilities:
 - Contact sales representative
 - Define needs
 - Negotiate price
 - Confirm order
 - Release invoice for payment

S245 - II-3-a) Identify Supporting Mechanisms

- S246 - This includes applications and data sources, machinery, forms, documents, reports, and so on, for each process.

- S247 - It may be very tied to the current implementation, but it is safe because we clearly separated *what* from *how*

II) ESTABLISH PROCESS SCOPE AND CONTENTS:

S248 - II-3-b) Identify Process Measures (Optional)

- S249 - This stage would cover basic operating measures such as the number of instances of the process per time period, the percentage of each case, the percentage that end (un-)successfully, typical cycle time, and so on.
- S250 - Note: the focus is on **measures**, which are simple statistical values, **not metrics**, which are values resulting from calculation via multiple measures for producing a balanced perspective on performance
- S251 - Avoid focusing on metrics at this stage, to avoid the problem of 'bringing yesterday's metrics into tomorrow's process'

PILOT CASE STUDY: THE AGENCY (COLLECTED TERMS)

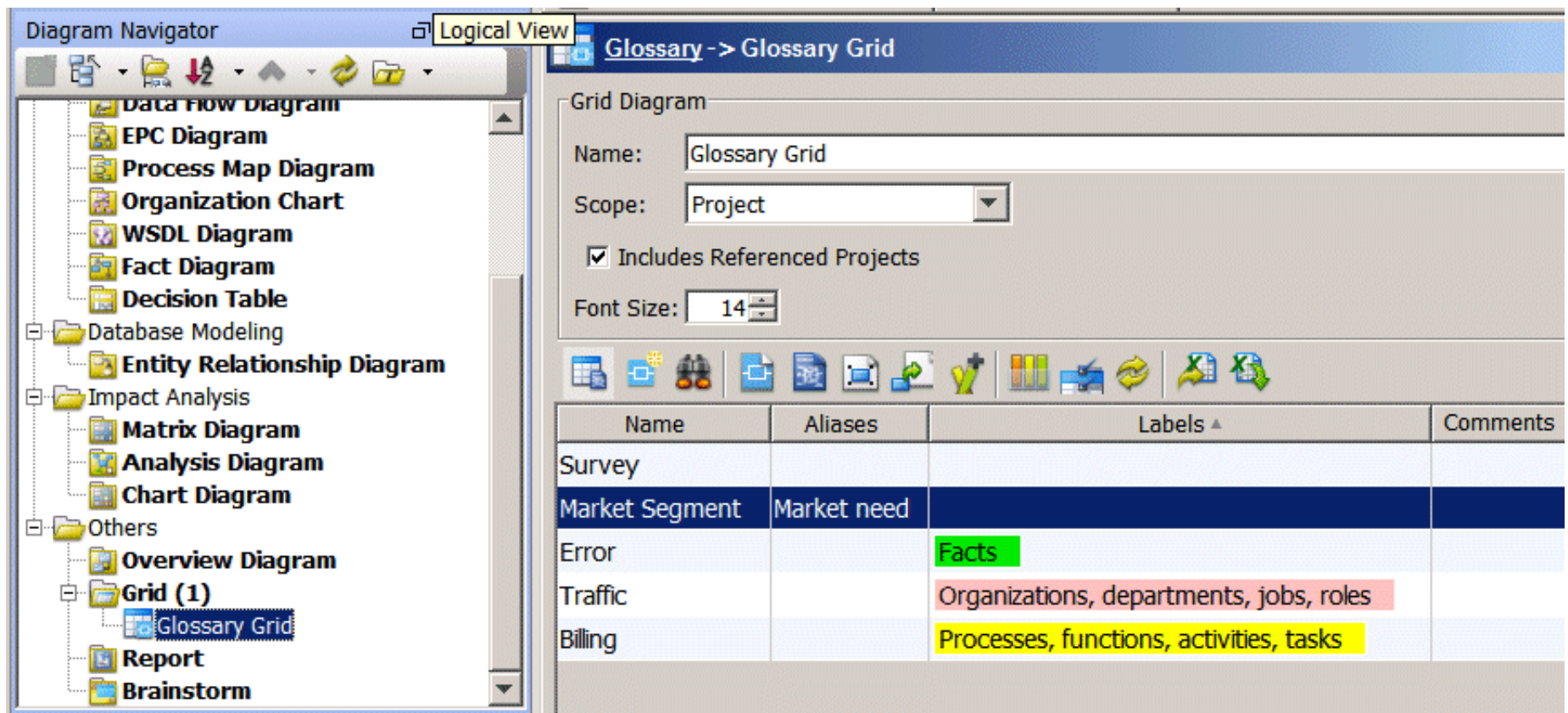
Accident	Employee	Inspection Outcome Rpt	Premium
Account Balance	Employer	Inspection Plan	Premium Amount
Account Manager	Employer Account	Inspection Report	Prev'n Analysis Team
Adjudication	Employer ID	Inspection Request	Protest
Adjudicator	Employer List	Inspection Result	Receipt
Administration	Employer Event	Inspection Supervisor	Referral
Agency Staff	Employer Services Ass't	Inspection System	Refund
Analytics	Employer Status	Inspector	Regional Director
Appeal	Enrollment Request	Investigation	Registration Date
Appeal Admin	Event	Investigator	Regulation
Appeal Type	Event Location	Invoice	Report
Assessment	Facilitator	Issuance	Response Time
Backlog	Facility	Lead Time	Risk Class
Certificate	Fine	Letters	Risk Class Code
Citation	Hearing	Litigation	Safety Infraction
Client	Incident	Location	Self-Employed
Collections	Incident Frequency	Logging	Severity
Communication	Indicia	Mainframe	SIC
Complaint	Industry Class Code	Monitoring	Site
Compliance	Infraction	Notification	Statement
Consultant	Injunction	Notification Letter	Threat
Consultation	Injured Worker	Officer	Trend
Consultation Request	Inspection	Order	Violation
Contractor	Inspection Admin	Payment	Worker
Document	Inspection Date	Penalty	Workload
E-mail	Inspection Finding	Plant	Workload Report

PILOT CASE STUDY: THE AGENCY (COLLECTED TERMS)

Glossary Grid in Logizian

It allows managing Project Keywords.

Each term can be connected to aliases/synonyms, and can be associated to Labels/Categories



The screenshot displays the Logizian software interface. On the left, the 'Diagram Navigator' shows a tree view of various diagram types, including 'Data Flow Diagram', 'EPC Diagram', 'Process Map Diagram', 'Organization Chart', 'WSDL Diagram', 'Fact Diagram', 'Decision Table', 'Database Modeling', 'Entity Relationship Diagram', 'Impact Analysis', 'Matrix Diagram', 'Analysis Diagram', 'Chart Diagram', 'Others', 'Overview Diagram', 'Grid (1)', 'Report', and 'Brainstorm'. The 'Glossary Grid' is selected under 'Grid (1)'. The right pane shows the configuration for the 'Glossary Grid' with the following settings:

- Name: Glossary Grid
- Scope: Project
- Includes Referenced Projects
- Font Size: 14

Below the configuration is a toolbar with various icons. The main area displays a table with the following data:

Name	Aliases	Labels ▲	Comments
Survey			
Market Segment	Market need		
Error		Facts	
Traffic		Organizations, departments, jobs, roles	
Billing		Processes, functions, activities, tasks	

PILOT CASE STUDY: THE AGENCY (COLLECTED TERMS)

S252

Selected nouns	Synonyms

Facts
Metrics
Organizations, departments, jobs, roles, ...
Processes, functions, activities, tasks, ...
Systems, tools, equipment, mechanisms, ...
Reports, forms, screens, queries, ...
Others too vague, single instance, not tracked, out of scope

Sorted terms, including core nouns.

PILOT CASE STUDY: THE AGENCY (COLLECTED TERMS)

Selected nouns	Synonyms
Appeal	Adjudication, Protest, Hearing
Application	Enrollment Request
Complaint	Inspection Request, Referral
Consultation	Proactive Inspection
Employer	Client, Employer Account, Account
Event	Employer Event
Incident	Accident
Inspection	Investigation
Indicia	Certificate, License
Inspection Outcome	Inspection Finding, Citation, Injunction
Inspection Result	Safety Infraction, Infraction, Violation
Inspection Report	Report, Notification, Issuance, Statement
Location	Site, Facility, Plant
Officer	Inspector, Investigator, Facilitator, Adjudicator, Account Manager
Penalty	Assessment, Fine
Worker	Contractor, Employee

Facts

Account Balance, Appeal Type, Self-employed, Employer Status, Employer ID, SIC, Industry Class Code, Registration Date, Risk Class Code, Inspection Date, ...

Metrics

Workload, Lead time, Backlog, Compliance, Incident Frequency, Response Time, ...

Organizations, departments, jobs, roles, ...

Account manager, Administration, Analytics, Appeal Admin, Employer Services Assistant, Collections, Regional Director, ...

Processes, functions, activities, tasks, ...

Assessment, Monitoring, Logging, Litigation, ...

Systems, tools, equipment, mechanisms, ...

Mainframe, e-mail, document, letters, eDRM imaging system, Word letter templates, PPT presentations, ...

Reports, forms, screens, queries, ...

Workload report, Employer list (Note: almost none!)

Others too vague, single instance, not tracked, out of scope

Agency, agency staff, trend, premium, threat ,...

Sorted terms, including core nouns.