Process Modelling

Strategisches Prozessmanagement

8 😆 4 😮 13 ❓ 0

Agenda

Business process modelling

Business process maps and characteristics

Business Process Model and Notation

Modelling conventions

Outlook

Is this a contradiction?

Model vs. Real World

Ceci n'est pas une pipe.

A model is an abstraction of a business process (i.e. an image).

The correctness of a business process model can only be confirmed by the owner.

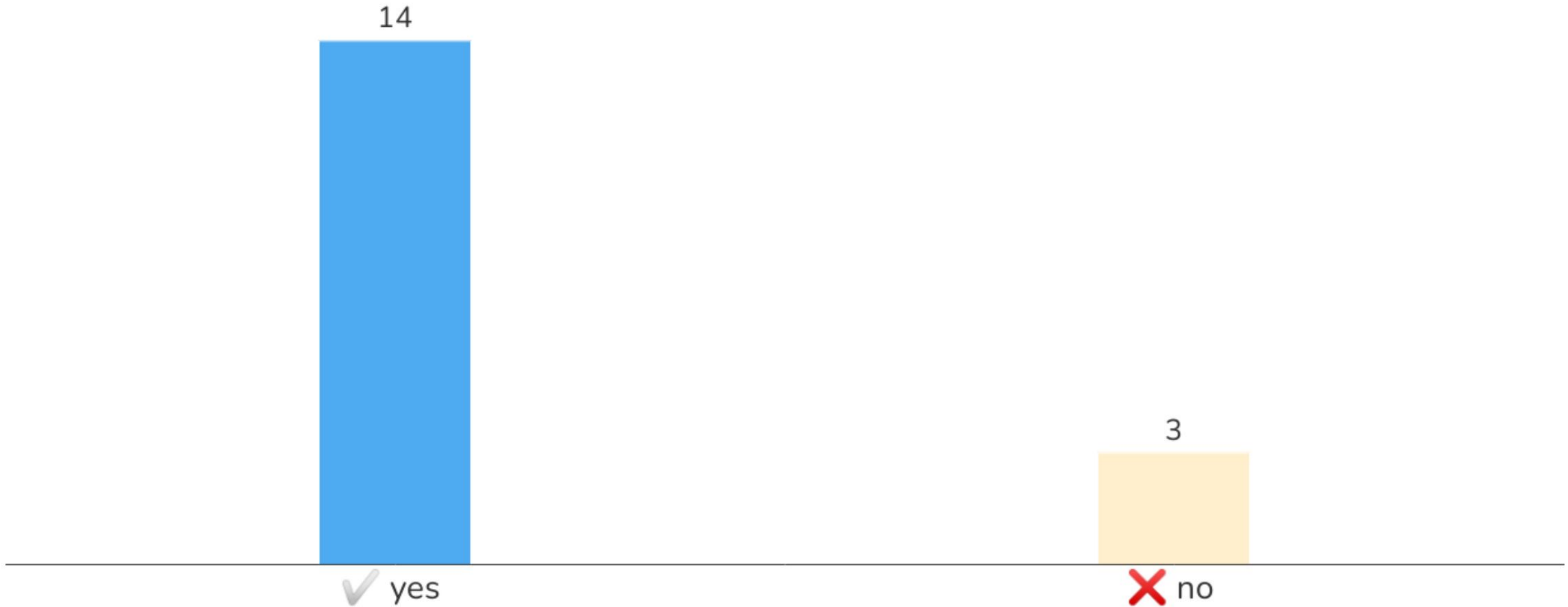Image taken from a University of Alabama site, "Approaches to Modernism": [1], Fair use, https://en.wikipedia.org/w/index.php?curid=555365

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Business Process Model and *Modeling Language*

A **business process model** is an abstraction on a business process as it is executed today or as it is intended to be (e.g. in the future). The model focusses on visualising relevant information and omits unnecessary aspects.
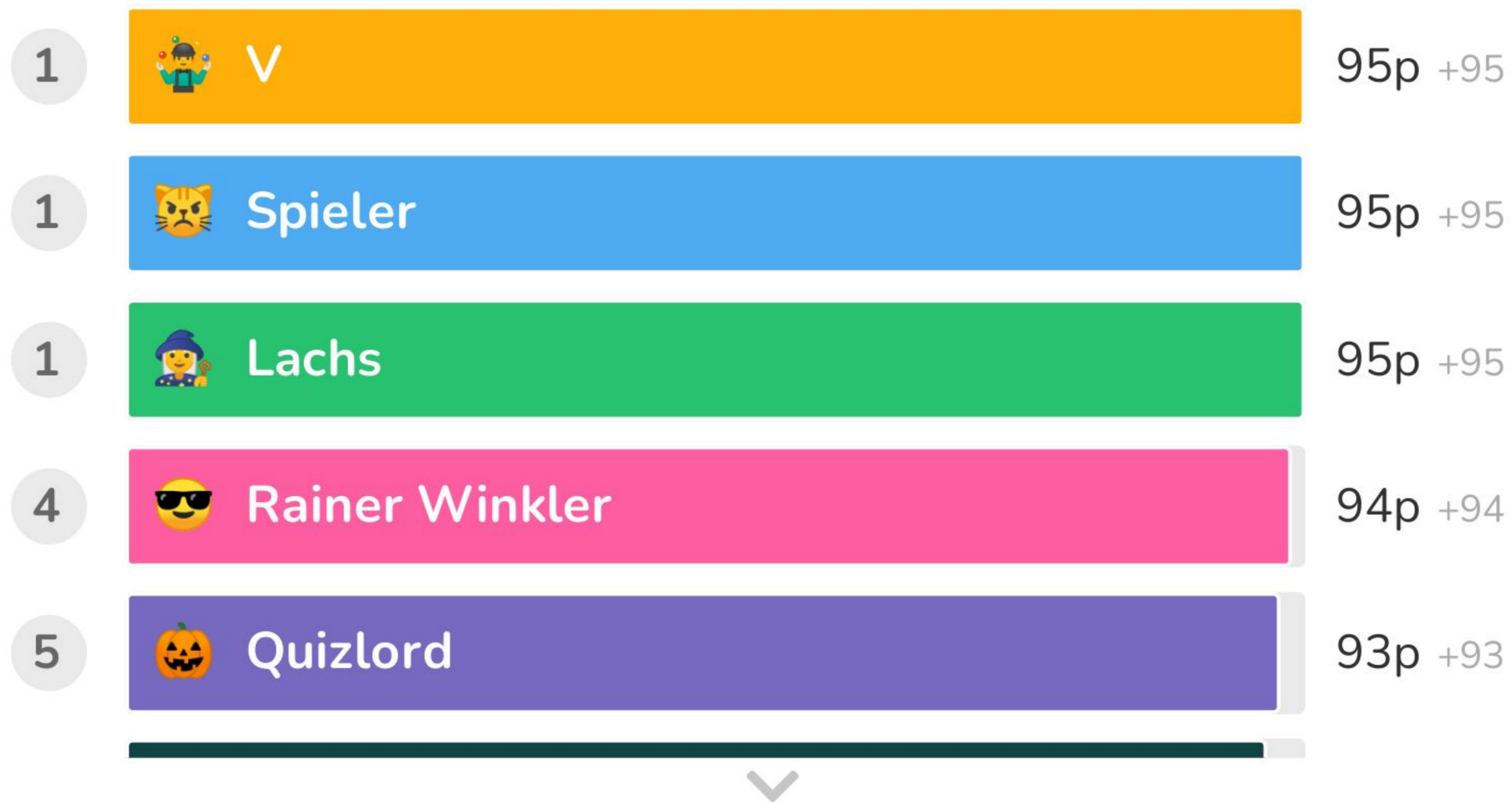
A **business process modeling language** defines concepts for modelling business processes. It consists of rules for constructing valid models (syntax) and an interpretation (semantics).
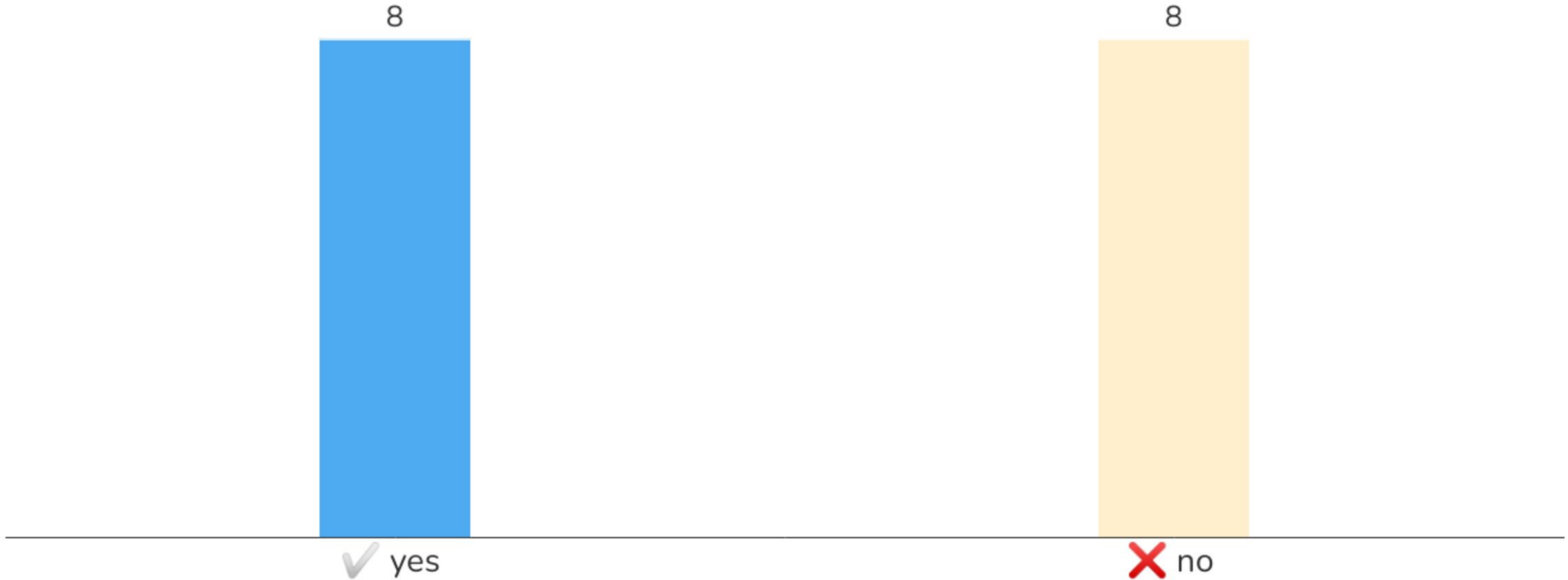
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Is this a business process model?

14

3

✔ yes

❌ no

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Leaderboard

17 players

1	🤹 V	95p	+95
1	🐱 Spieler	95p	+95
1	🧙 Lachs	95p	+95
4	😎 Rainer Winkler	94p	+94
5	🎃 Quizlord	93p	+93

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Leaderboard

17 players

		Points	
1	🤹 V	193p	+98
2	🐱 Spieler	191p	+96
2	😎 Rainer Winkler	191p	+97
2	🧙 Lachs	191p	+96
5	🐑 Mäh	187p	+95

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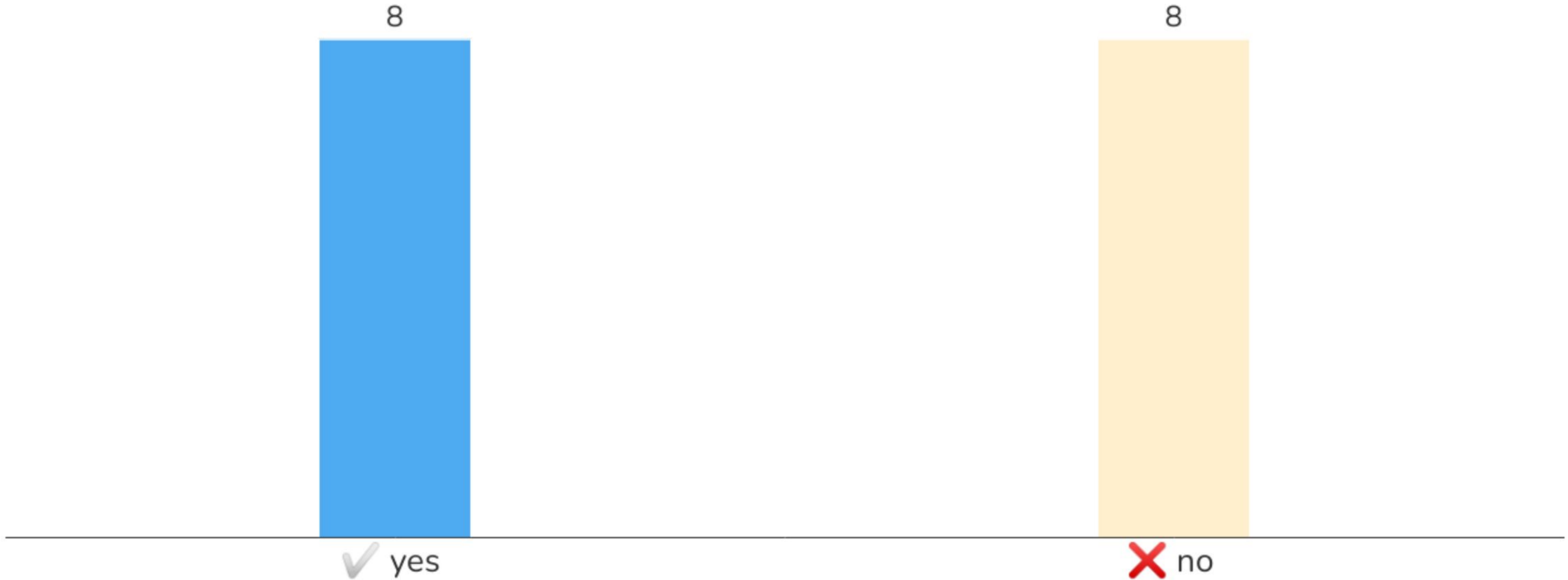
Challenge with Models

Essentially, all models are wrong, but some are useful.

George Box (1919--2013)

Levels of Abstraction
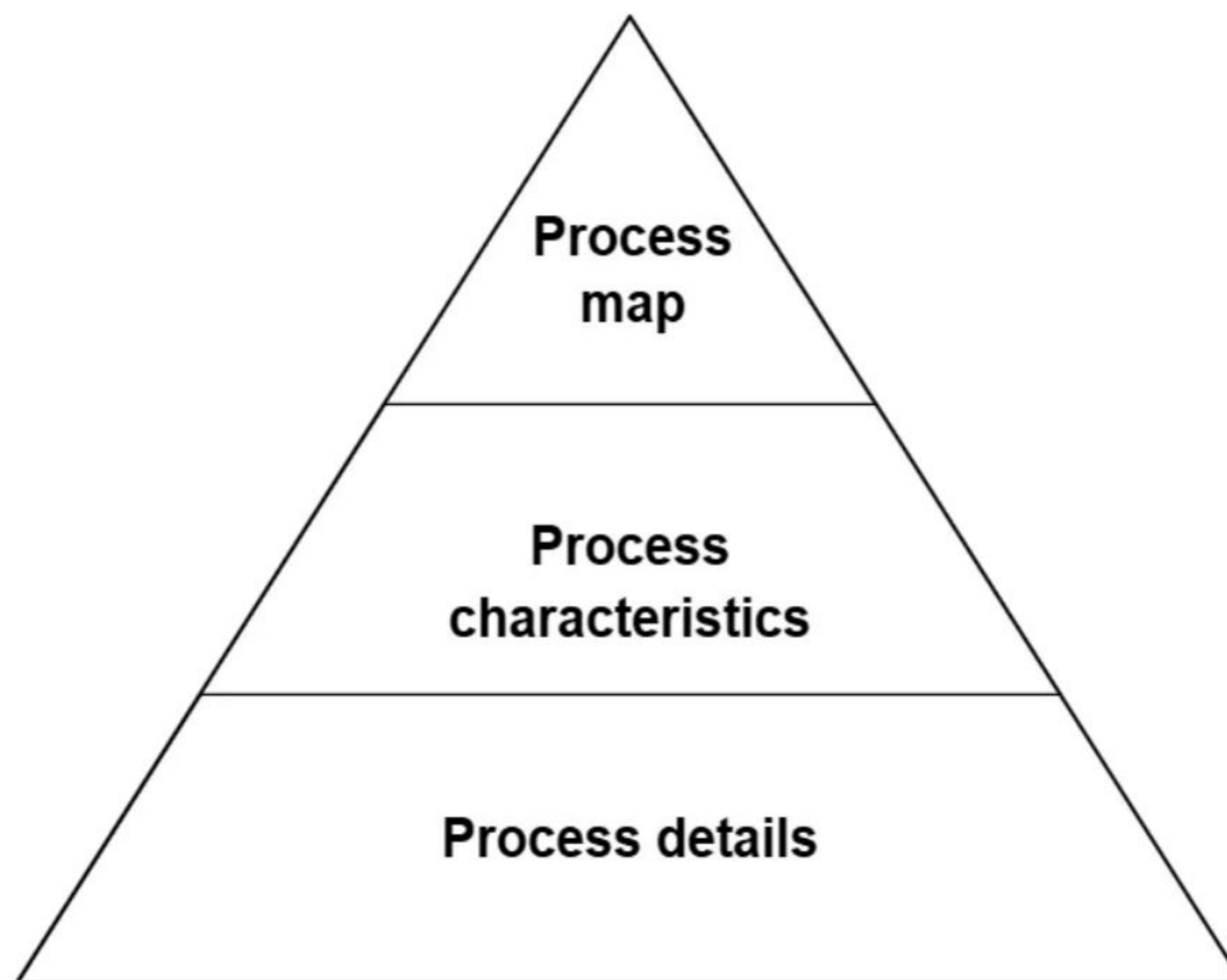
Process map — Overview on all relevant processes of a company or an organisational unit

Process characteristics — High-level information about business processes and their dependencies

Process details — Model with specific information about a process and its execution

Process Maps

Process map
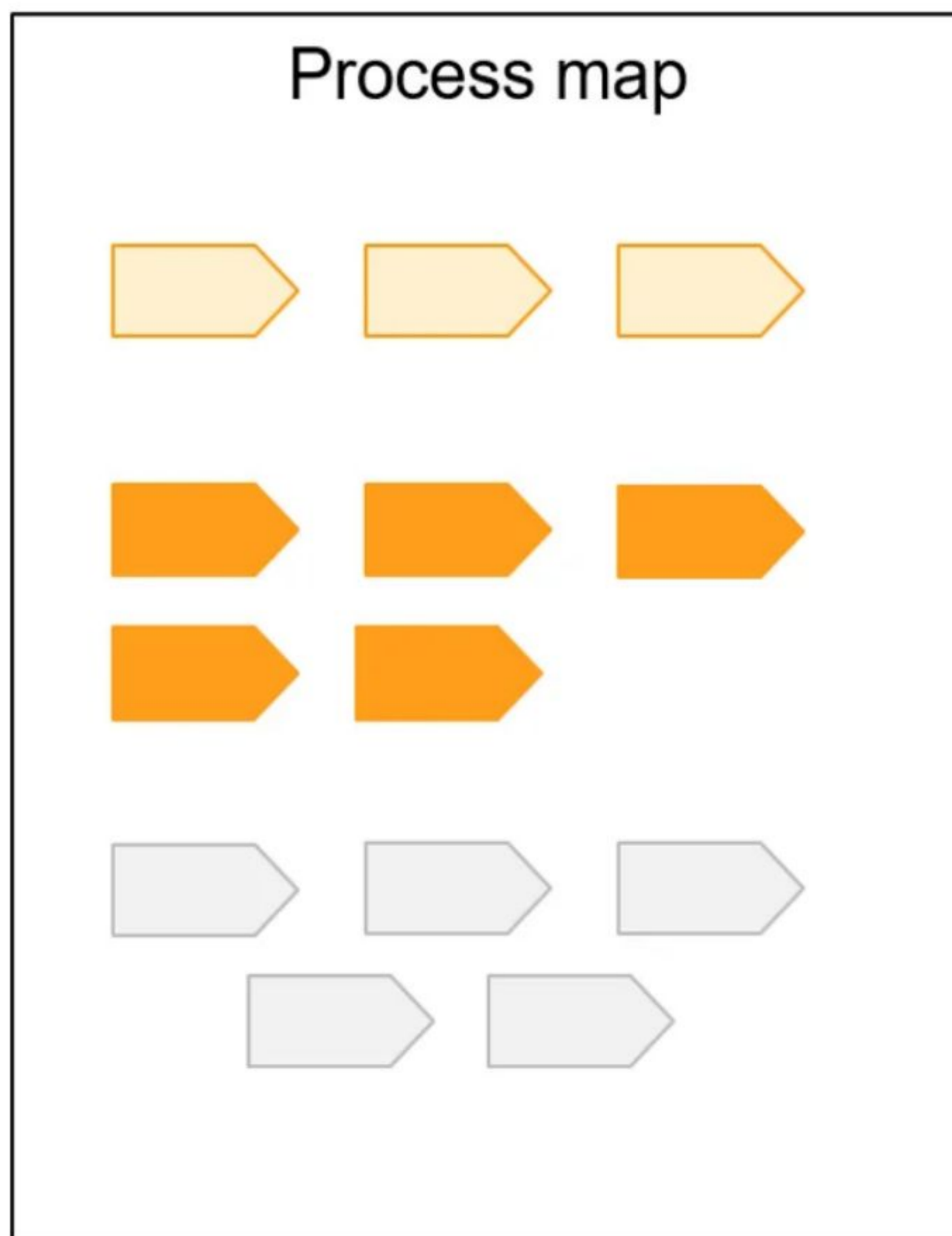
Guiding processes
- Govern the business (long term)
- Plan and control (short term)

Core processes
- Develop products and services
- Satisfy customers and consumers

Enabling processes
- Provide primary resources
- Support with conventional resources

Example Map (logistics)

Management processes	Strategy-to-Value	Concept to-Retire	Plan-to-Control

Core processes	Contact-to-Contract	Requirement-to-Pay	Inquiry-to-Close
	Pickup-to-Delivery	Order-to-Delivery	Order-to-Cash

Supporting processes	Information Technology	Information Management	Warehousing
	Finance	Human resources	

Example Map (generic)

Guiding Processes

| Analyze markets | Develop strategic plans | Enhance brand | Mitigate regulatory risk | Establish policies and rules | Optimize change portfolio | Budget financial resources | Support community programs |

Core Processes

Develop P or S Concept: Gather P or S insights · Identify P or S need · Research P or S ideas · Approve P or S proposal

Create P or S: Develop P or S brand promise · Develop P or S prototype · Develop P or S · Launch P or S

Optimize P or S Performance: Forecast P or S demand · Plan P or S supply · Evaluate P or S · Enhance P or S · Decommission P or S

Win New Customers: Make consumer aware · Inform consumer · Qualify consumer

Establish Commitment: Agree to services · Get consumer ready

Transact Consumer Business: Deliver consumer services · Calculate consumer charges · Close consumer accounts · Report consumer account status

Mitigate Risks: Prevent consumer losses · Settle consumer complaint and claims

Enabling Processes

| Improve business processes | Provide information | Provide employees | Share knowledge | Protect intellectual property | Provide facilities | Provide IT services | Optimize suppliers & supplies |

https://bpmtips.com/process-architecture-real-life-examples/

Process Map (Lego)

OPERATING PROCESSES

| 01 Develop Vision and Strategy | 02 Develop and Manage Products and Services | 03 Market and Sell Products and Services | 04 Deliver Products and Services | 05 Manage Consumer Services |

SUPPORTING PROCESSES

6.0 Develop and Manage Human Capital

7.0 Manage Information Technology

8.0 Manage Financial Resources

9.0 Acquire, Construct and Manage Property

10.0 Manage Environmental Health and Safety (EHS)

11.0 Manage Communication and Relationships

12.0 Manage Knowledge, Improvement and Change

13.0 Manage Quality

14.0 Manage Master Data

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https://bpmtips.com/process-architecture-real-life-examples/

Levels of Abstraction

Process map

Overview on all relevant processes of a company or an organisational unit
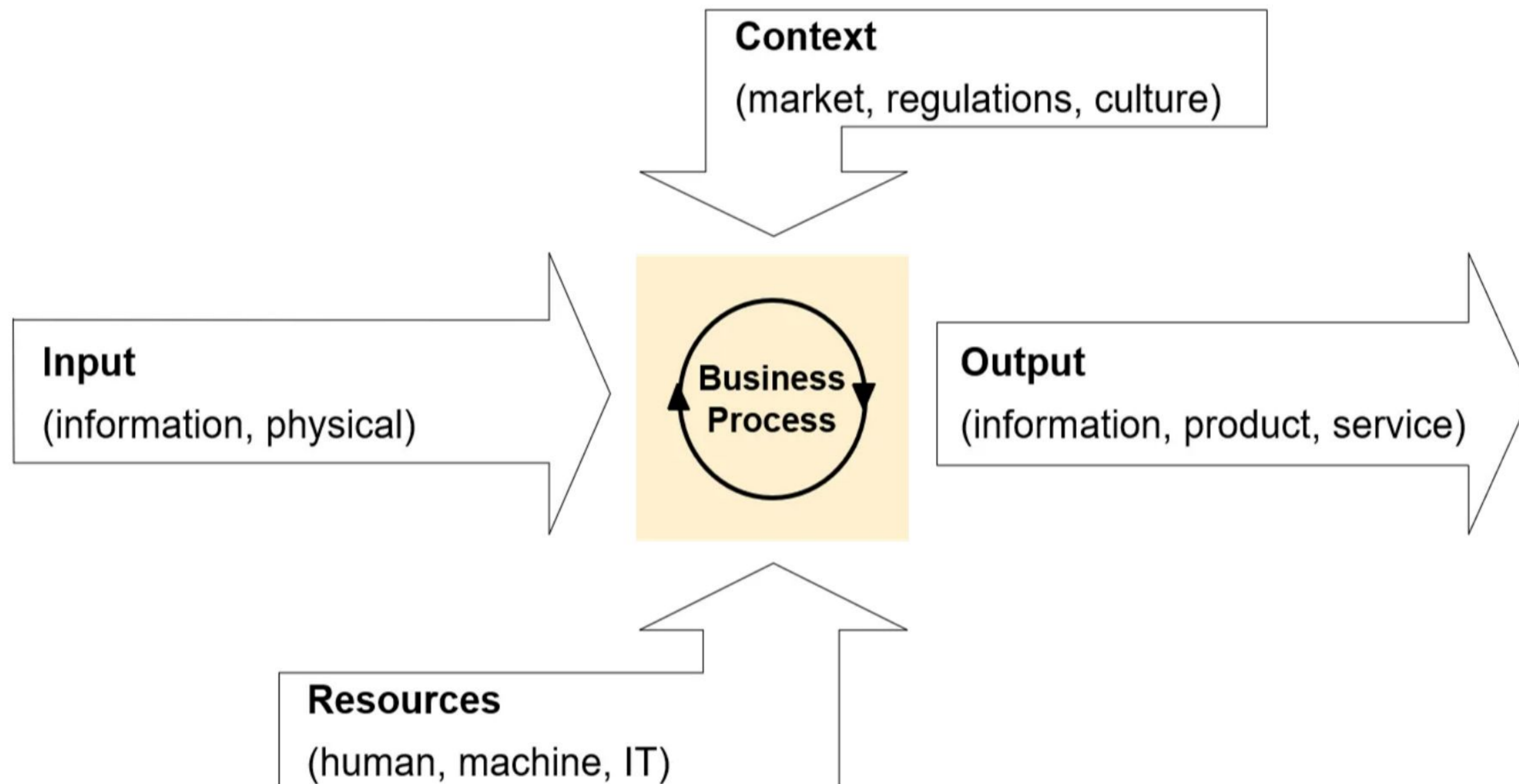
Process characteristics

High-level information about business processes and their dependencies

Process details

Model with specific information about a process and its execution

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Which kind of information is relevant when describing a business process?

kunden

how

fachverantwortlicher prozessbeschreibung

schritte

what

defined start and end

ressourcen

input/output activities reihenfolge relevant departments

risiken

artefacts

with

zeitplan

who

verantwortlichkeiten

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Context of a Business Process

Example Characteristic (1/3)

Process Characteristics		
Process name: Order fulfilment	Date: 2021-12-22	
Purpose: Delivering orders from warehouse to consumers on time	Editor: J. Jung	
Process owner: Order Fulfilment and Warehouse Operations	Interviewee: S. Go	
Input: Consumer order from web shop; inventory; delivery schedule		
Main activities	Participants	IT-Systems	Ressources

Basic information

Process Characteristic (2/3)

Input: Consumer order from web shop; inventory; delivery schedule			
Main activities	**Participants**	**IT-Systems**	**Ressources**
Accept and verify order from webshop		OMS	
Determine fulfilment center, service level and routing		OMS	
Pick goods and create documents	Picker	WMS	Mobile device
Inspect goods/documents and pack them into parcels	Packer	Shipping	Scanner
Sort outbound deliveries and hand over to DSP	Dispatcher	OMS	Scanner

Main activities

Process Characteeristic (3/3)

Result: Parcels out for delivery towards consumers

Sub-process of: Order-to-Delivery

Preceding processes: ./.

Following procceses: Shipment tracking

Critical success factors: IT integration of order management system (OMS) with webshop and delivery service provider (DSP)

Process context

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Anything still missing?

Process Decomposition

Step 1	Step 2	Step 3	Step 4	Step 5
A 1.1	A 2.1	A 3.1	A 4.1	A 5.1
A 1.2	A 2.2	A 3.2	4.2	A 5.2
A 1.3			A 4.3	A 5.3
			A 4.4	

Process steps can be decomposed into activities

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Example Decomposition

Order fulfillment

Accept Order	Plan Order	Manage Order	Pick goods	Provide value-added service	Pack goods	Transport Mail Items	Deliver Mail Items
• Receive order • Enter order • Verify order • Approve order • Create pick ticket	• Determine fulfilment center • Determine DSP • Determine service level • Select routing	• Put order on hold? • Split order • Consolidate order • Update order • Cancel order	• Prioritize pick ticket • Create pick list • Print commercial invoice • Create DSP label • Pick goods • Confirm picking order	• Provide flocking • Attach logo • Wrap gift? • Personalize item • ...	• Inspect goods • Bundle shipment (goods and documents) • Box goods • Attach label	• Issue goods • Bundle shipments • Create shipping manifest • Provide shipment list to transport service provider • Hand over to transport service provider • Clear import customs • Perform physical inspection	• Hand over to DSP • Scan and label items • Collect duties and taxes • Hand over items to consignee • Handle undeliverable

Executing a customer order from web shop to door step
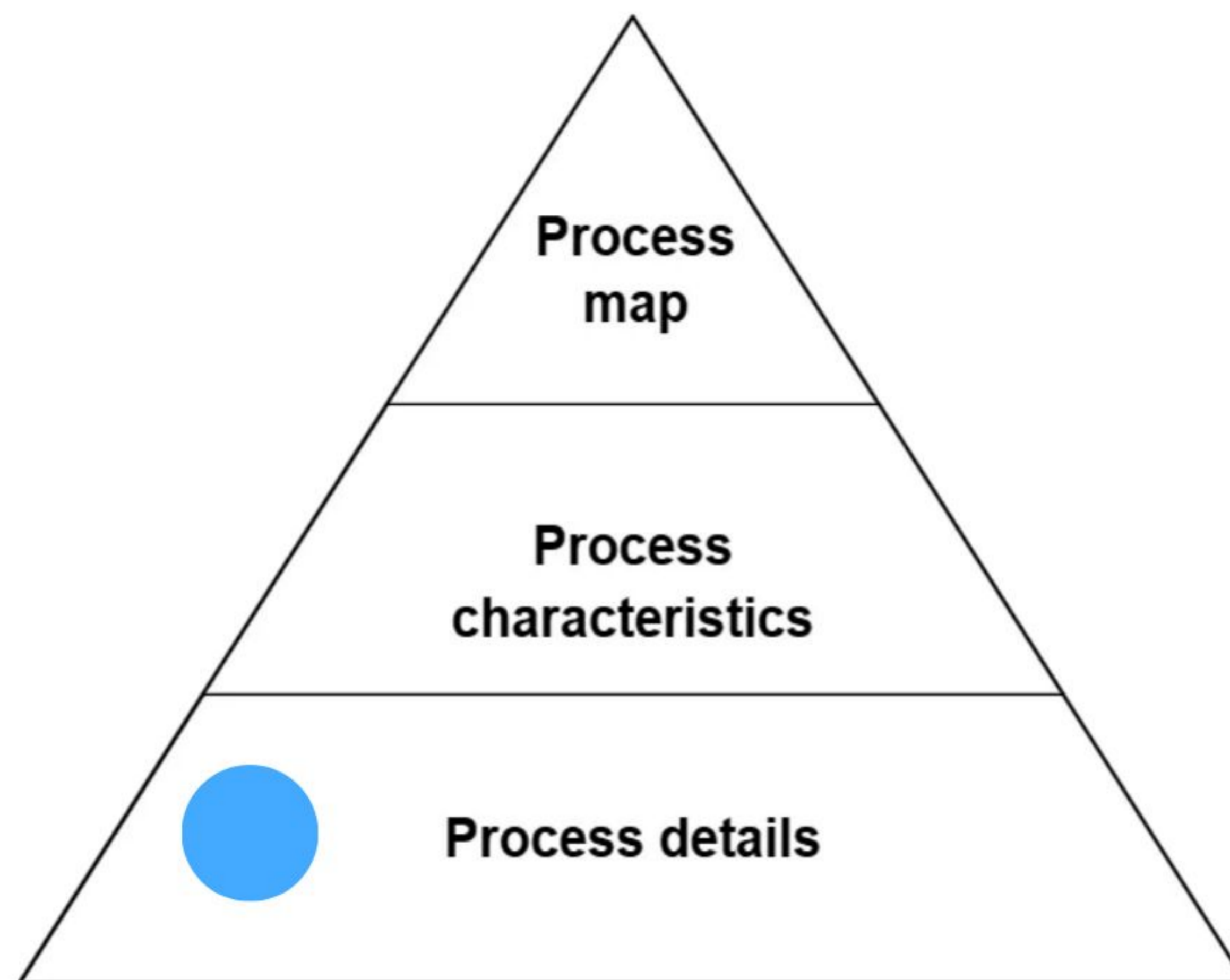
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Levels of Abstraction

Process map

Overview on all relevant processes of a company or an organisational unit
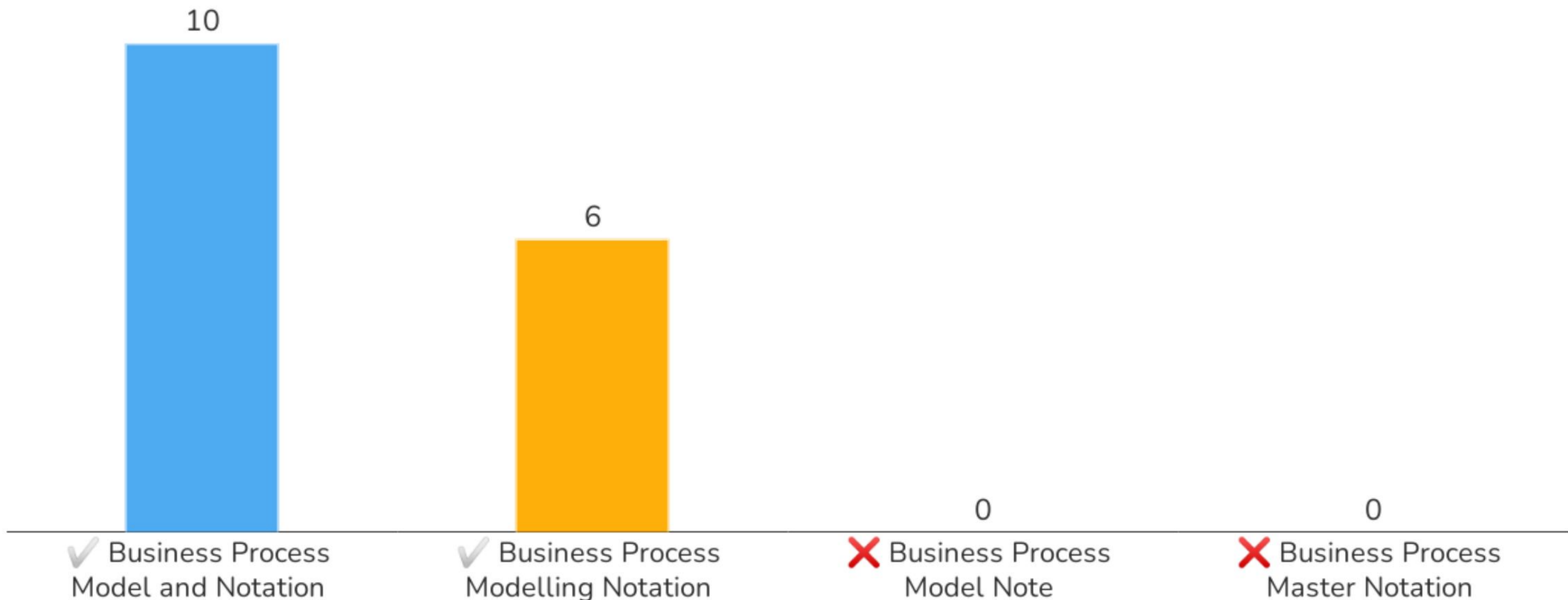
Process characteristics

High-level information about business processes and their dependencies

Process details

Model with specific information about a process and its execution

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Business Process Model Example
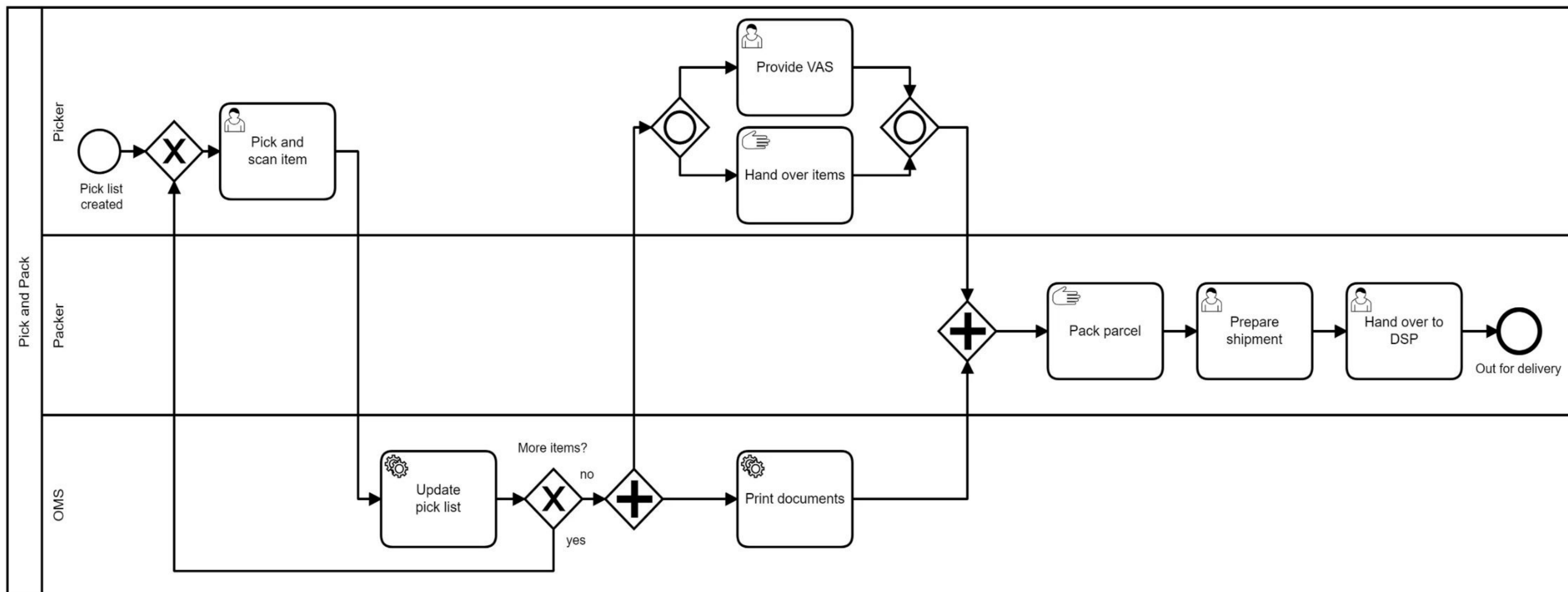
Leaderboard

18 players

x 4 🐑 **Mäh** is rocking the longest streak!

1	🐑	**Mäh**	358p +79
2	😾	**Spieler**	327p +44
3	🧙‍♀️	**Lachs**	317p +32
4	😎	**Rainer Winkler**	313p +37
5			

👍 8   😆 4   😮 13

Which one shows a gateway?

AhaSlides

0   0   1   13

❌   ❌   ❌   ✔️

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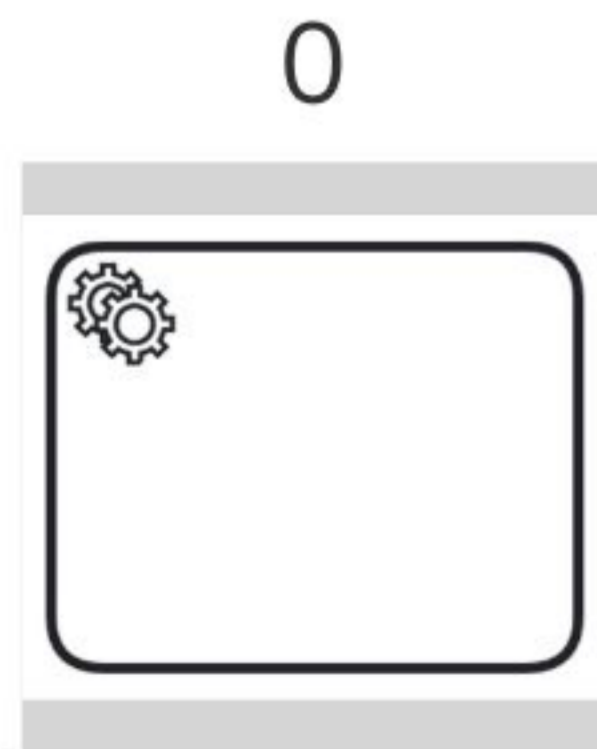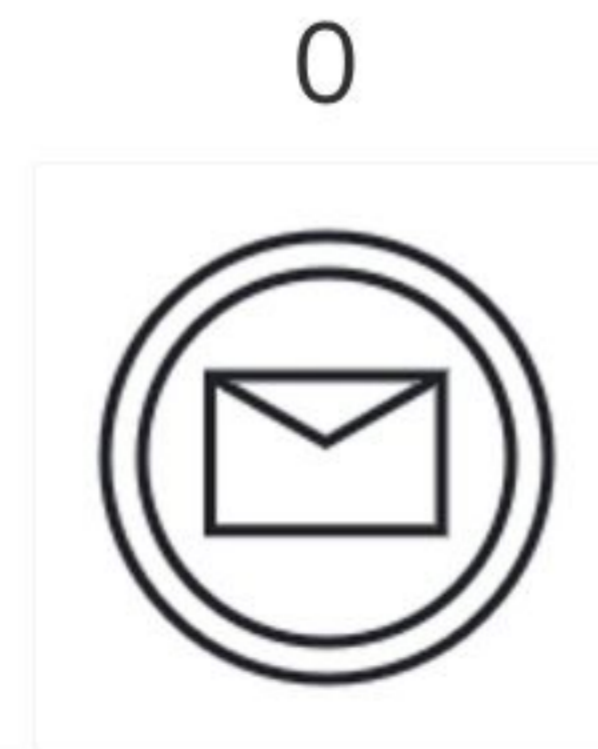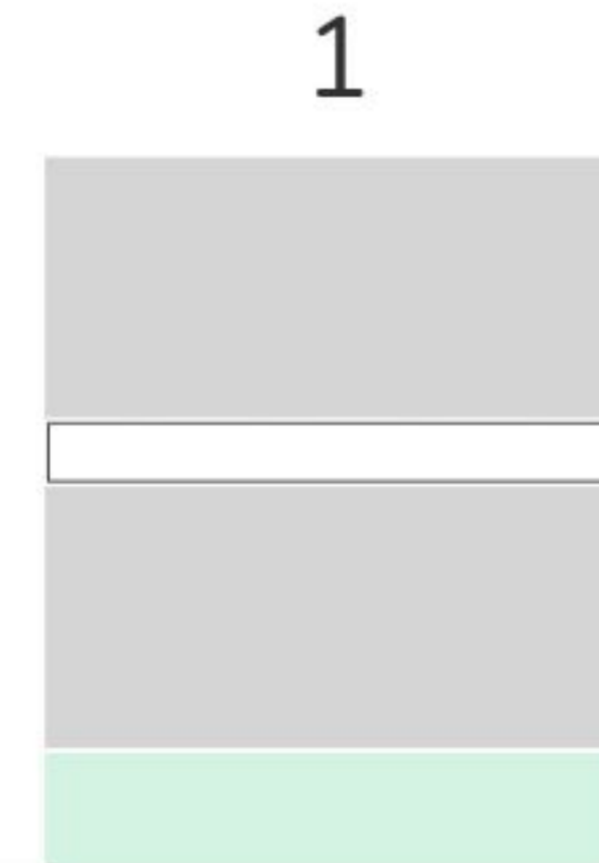
Leaderboard

18 players
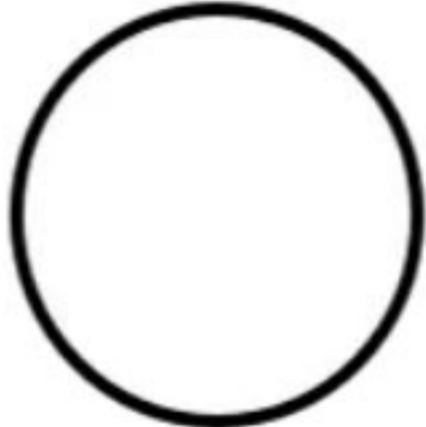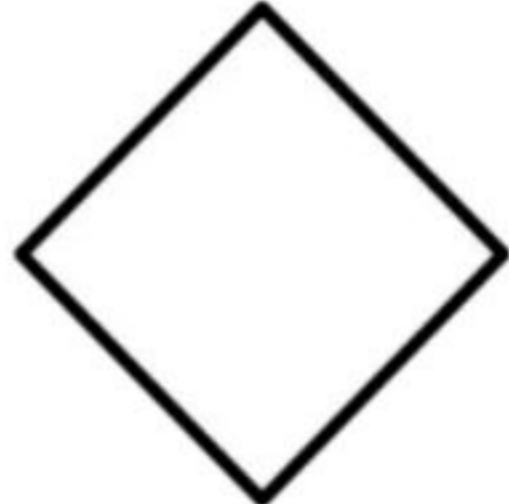
x 5   🐑 **Mäh** holds the longest streak record!

Mäh

446 points

1	🐑	Mäh	446p +88
2	🐱	Spieler	421p +94
3	🧑‍🦳	Lachs	410p +93
4	😎	Rainer Winkler	407p +94
5	👑		331p

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BPMN Elements

BPMN element	purpose	properties	examples	symbol
Task	• describing what needs to be done • contributes to value chain	• activity • takes time • performed by an actor	• provide information • approve contract • make decision	▢
Event	• describing what happens (or happened) • beginning or end of a status	• passive • doesn't take time • result of activity • triggers activity	• application submitted • order approved • server crashed	◯
Gateway	• branching • synchronisation • control flow • concurrency	• passive • timeless • condition (boolean expression)	• parallel (AND) • branch (XOR, OR)	◇

Strategic Process Management: Modelling

The *Business Process CoE* is accountable for enabling the modelling of business processes in a corporate environment. This usually requires:

- Provisioning of business process modelling tool
- Definition of modelling standards
- Defining quality criteria for business process models
- Ensuring quality and consistency of process landscape

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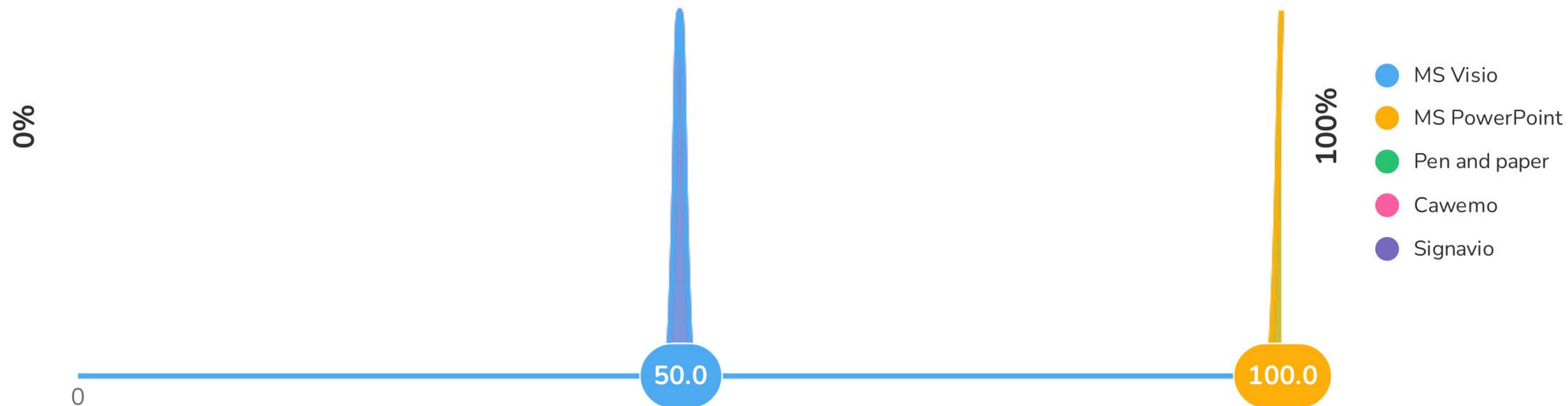
Modelling Conventions (examples)

Strategic Process Management defines

Conventions
- Use as few elements as possible
- Minimize out-/ingoing connections
- Use one start and one end event
- Follow clear structure
- Avoid OR gateways
- Naming: verb-object
- Less than 30 elements in a model

used by *Operational Process Management*
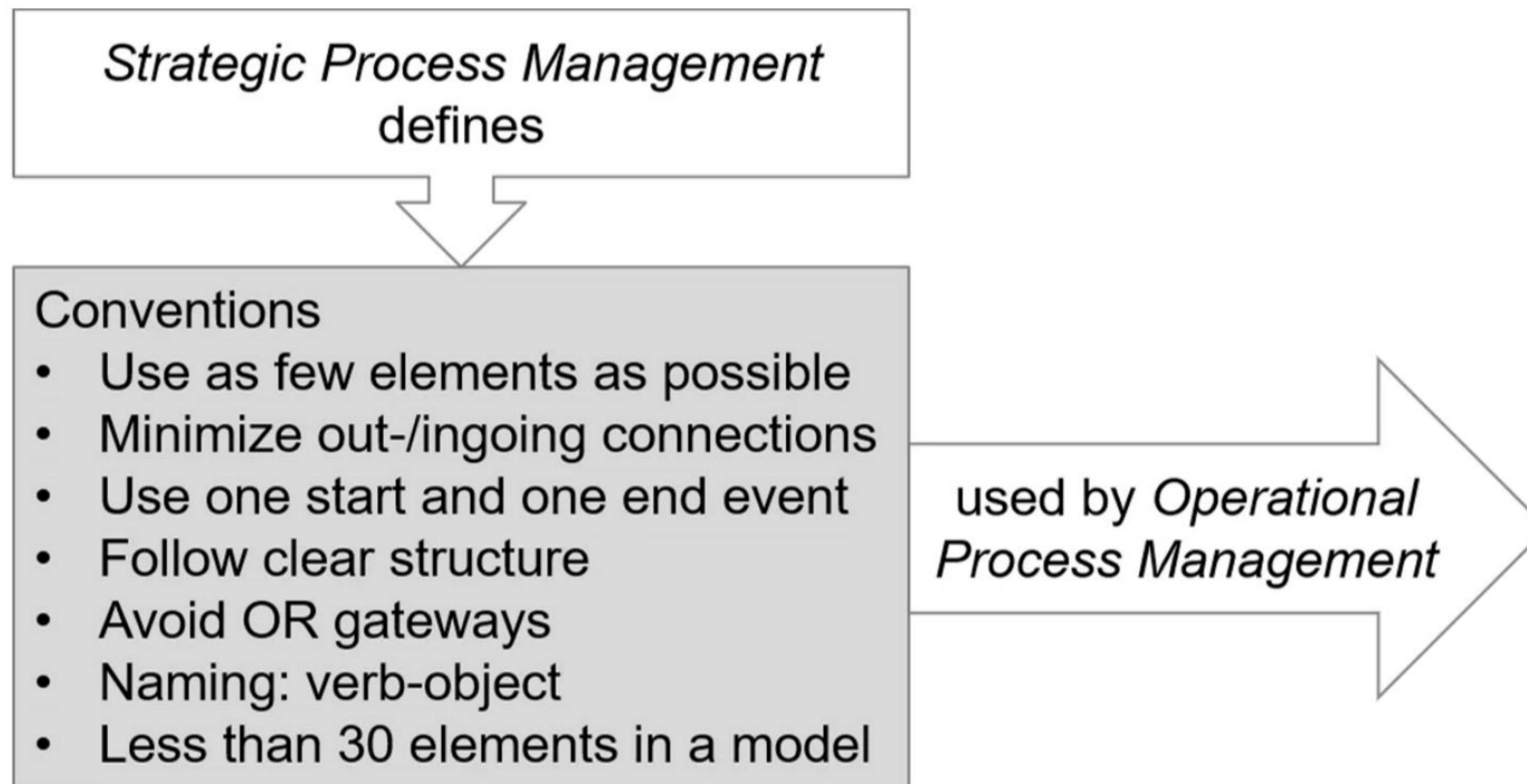
Conventions define process modelling standards

How can we assess the quality of a business process model?

Quality Criteria for Process <u>Models</u>

Some ideas for assessing a model's quality
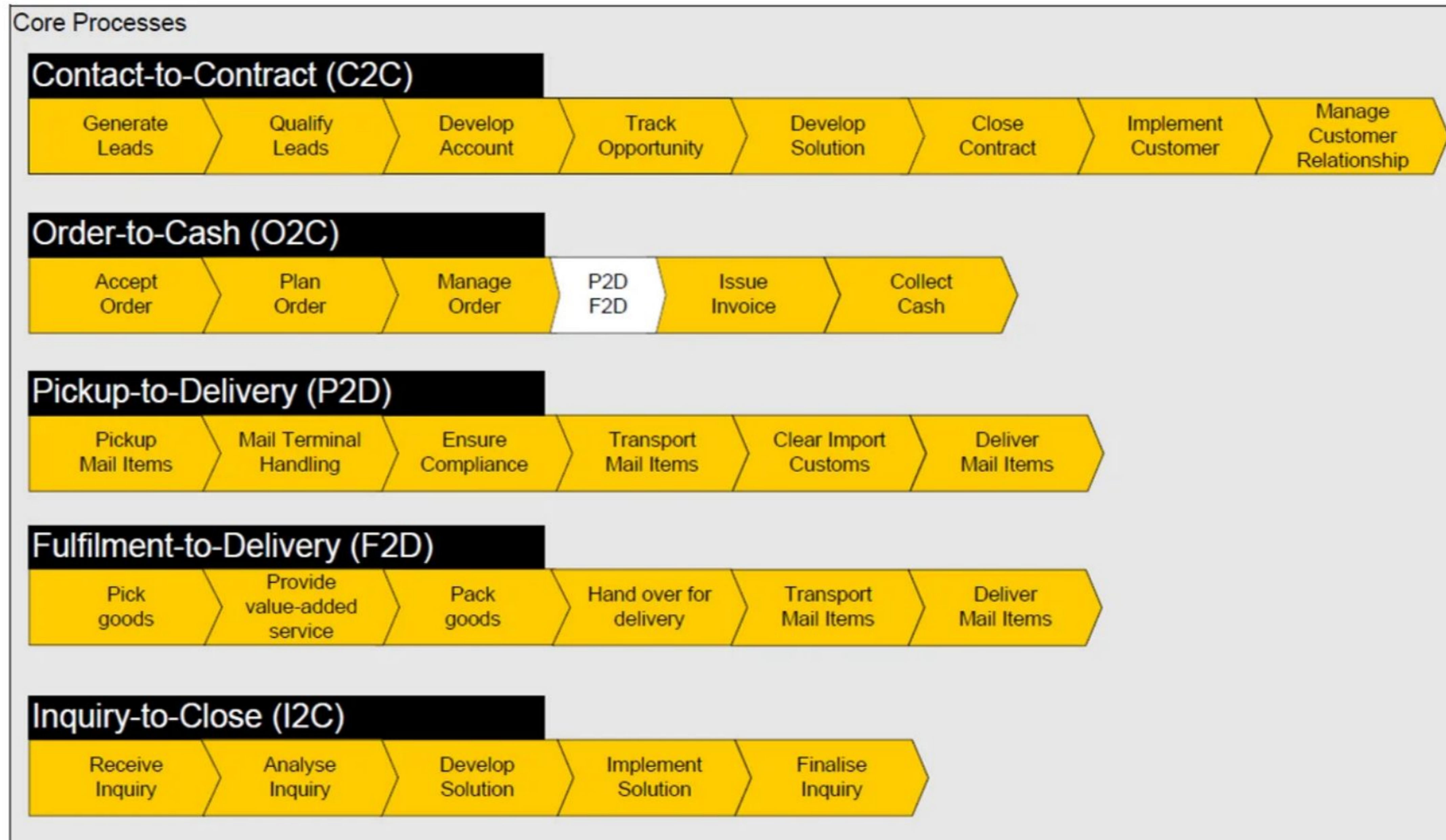
- Correct: Following modelling standards and conventions

- Comprehensible: Easy to understand by stakeholders

- Adequate: Supporting intended purpose

- Correct: Describing real-wprld process correctly

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Ensuring Consistency accross Processes

Core Processes

Contact-to-Contract (C2C)
Generate Leads → Qualify Leads → Develop Account → Track Opportunity → Develop Solution → Close Contract → Implement Customer → Manage Customer Relationship

Order-to-Cash (O2C)
Accept Order → Plan Order → Manage Order → P2D F2D → Issue Invoice → Collect Cash

Pickup-to-Delivery (P2D)
Pickup Mail Items → Mail Terminal Handling → Ensure Compliance → Transport Mail Items → Clear Import Customs → Deliver Mail Items

Fulfilment-to-Delivery (F2D)
Pick goods → Provide value-added service → Pack goods → Hand over for delivery → Transport Mail Items → Deliver Mail Items

Inquiry-to-Close (I2C)
Receive Inquiry → Analyse Inquiry → Develop Solution → Implement Solution → Finalise Inquiry

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Top questions

Pinned

Newest

Oldest

Answered

There are no unanswered questions.

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Exercise 4.1

Which steps do the following Veggie Bowl processes consists of?
1. Order-to-Delivery
2. Order-to-Serve

Find at least 5--7 process steps and explain each of them.

Process steps

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Exercise 4.2

Veggie Bowl Restaurant process map

- For each of your core processes
  - How can we measure the success?
  - Which objective is followed by each process?
- Time 45 minutes
- Teams of two

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