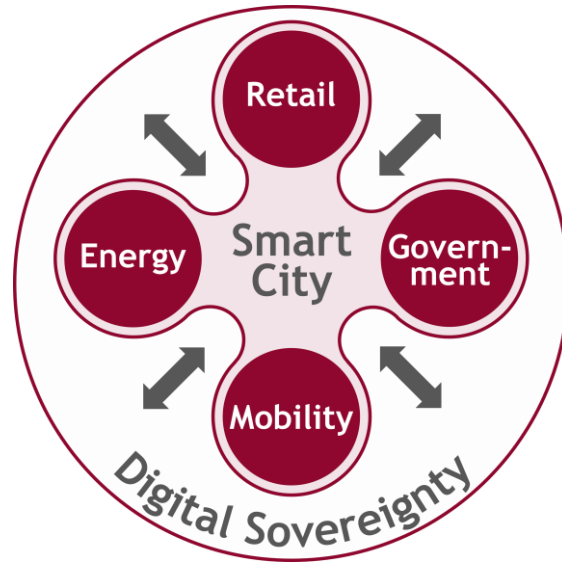


Process Models for Business Aspects in the Domains of Retail and eGovernment

Chair for IS and Information Management

Projects & Team



Current Team (2020)

- 1 Professor
- 1 Team Assistant
- 9 PostDocs
- 15 Research Assistants
- 27 Student Assistants

Process Modeling

Foundations



Process Modeling Foundations

Three Central Tasks of IS



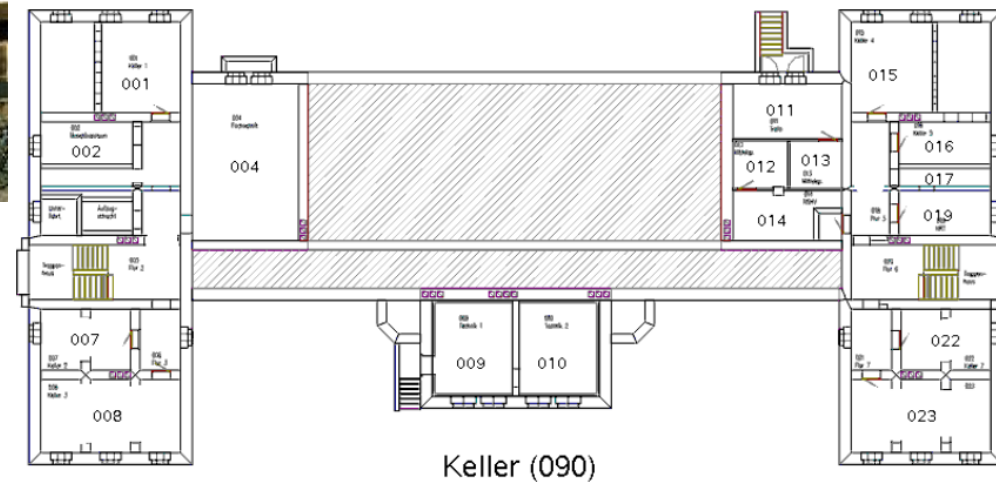
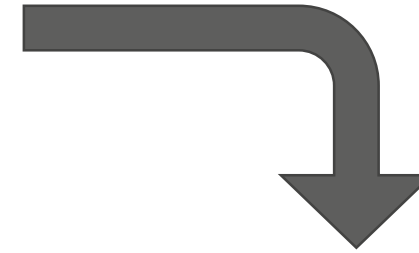
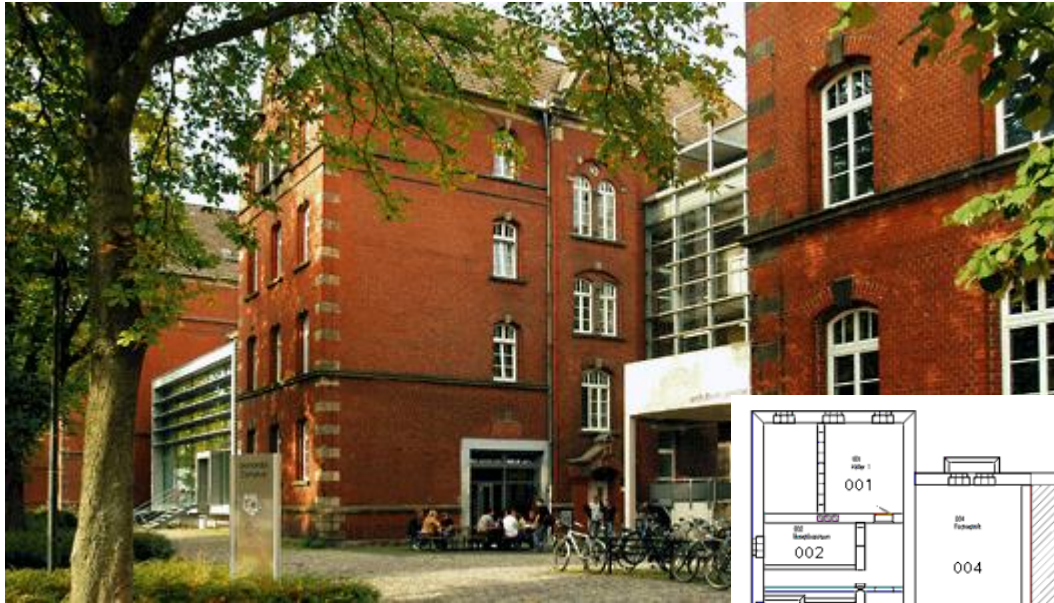
What are the three central tasks of Information Systems - especially in the collection of processes and data?

1. Structuring
2. Structuring
3. Structuring

→ Structuring leads to models!

Process Modeling Foundations

What is a Model?



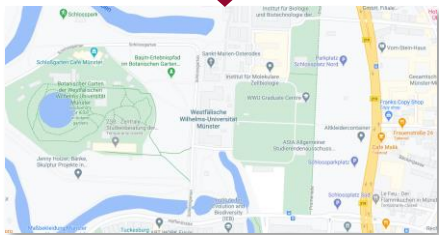
Process Modeling Foundations

Model Characteristics



Illustrative Feature

- The original can be a real object, or a mental construct.

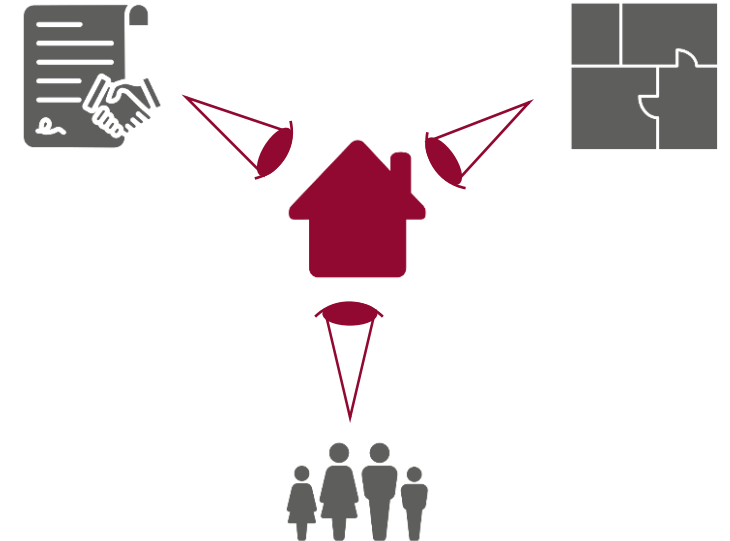


Shortening Feature

- a model represents a part of the original
- **Preterition**
insignificant aspects remain unconsidered in the model
- **Contrast**
certain aspects of the model can be contrasted with the original be emphasized more than others
- **Abundance**
additional aspects are added to the model, which do not correspond to the have in original

Pragmatic Feature

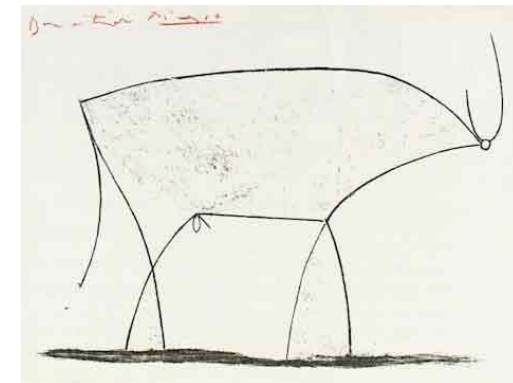
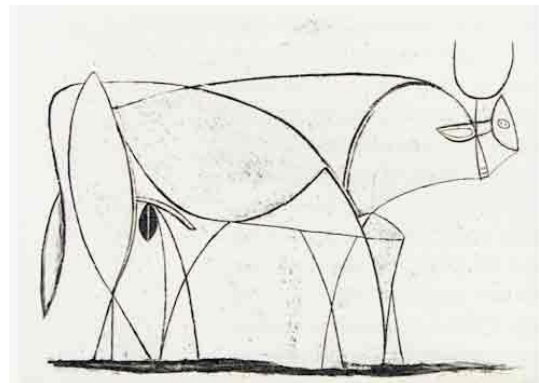
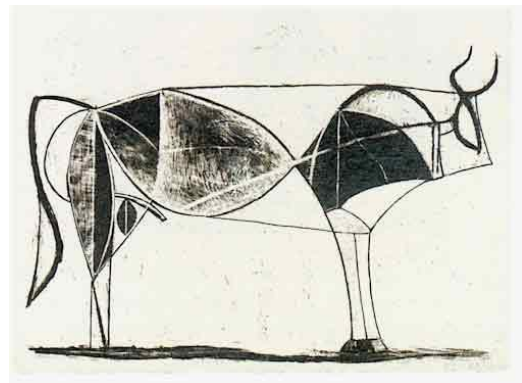
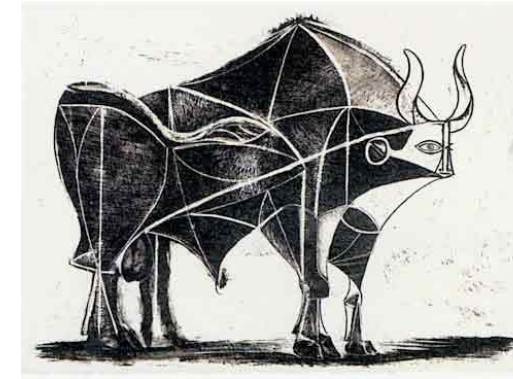
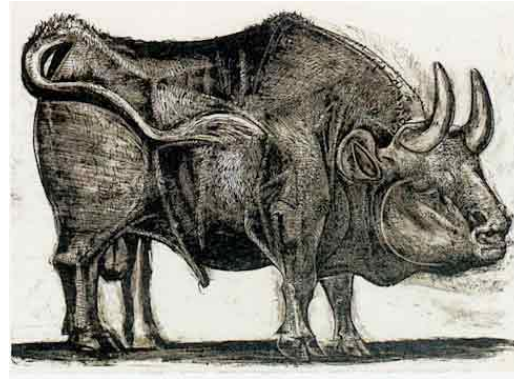
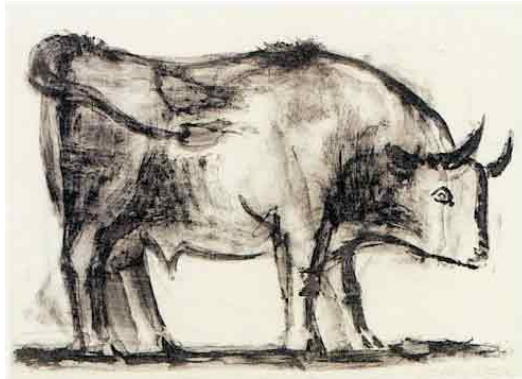
- The modeling has a purpose, a target group, and a certain validity period.



Stachowiak (1973)

Process Modeling Foundations

Abstraction



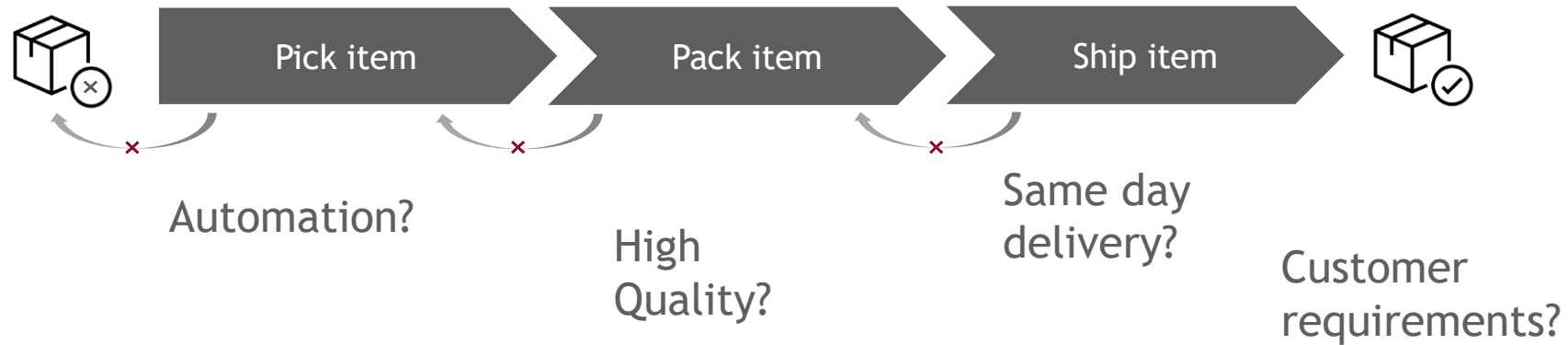
Pablo Picasso (1945/1946), „Stier“

Process Modeling Foundations

What is a Process?



„A process is a self-contained time-logical sequence of activities that work on a business relevant object.“



„A business process is a special process that is directed by the business objectives of a company and by the business environment.“

Becker & Kahn (2011), p. 6

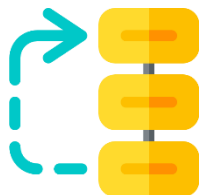
Process Modeling Foundations

Guidelines of Modeling



Correctness

Correct reproduction of depicted facts.



Relevance

Only relevant facts should be depicted.



Profitability

Modeling activities within a reasonable cost-benefit ratio.

Clarity

Adequate degree of intuitive readability depending on addressee.



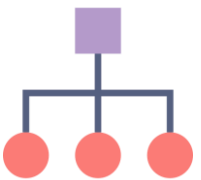
Comparability

Cross-model compliant application of modeling recommendations.



Systematic Structure

Well defined interfaces to corresponding models.



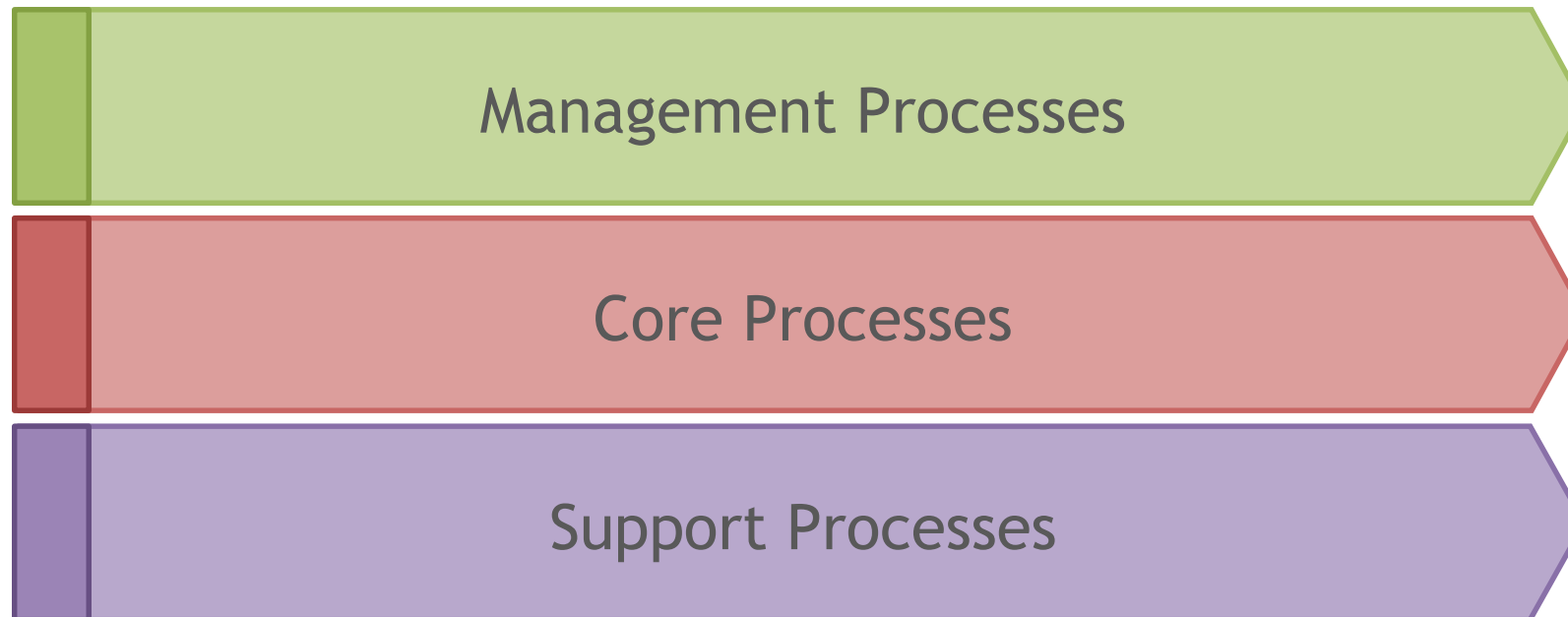
eGovernment Process Models

Reference Model of the WWU



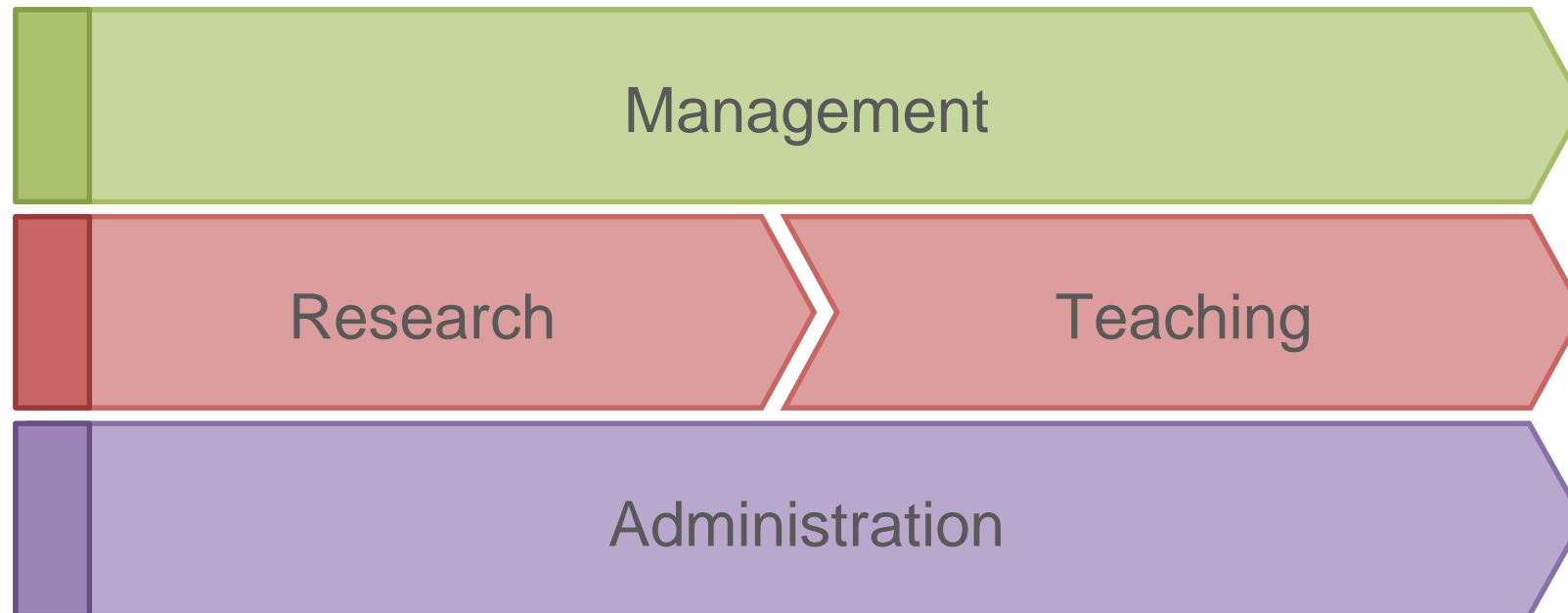
eGovernment Process Models

Reference Model of the WWU



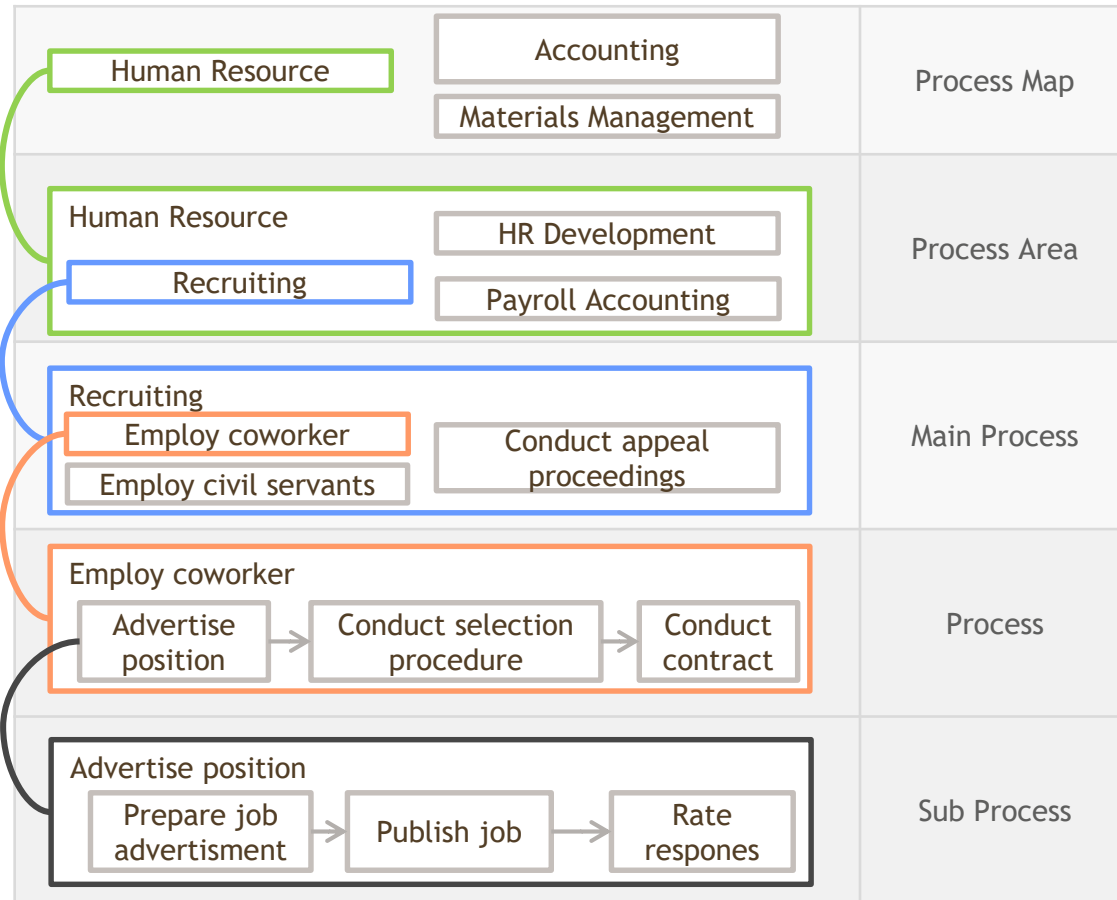
eGovernment Process Models

Reference Model of the WWU



eGovernment Process Models

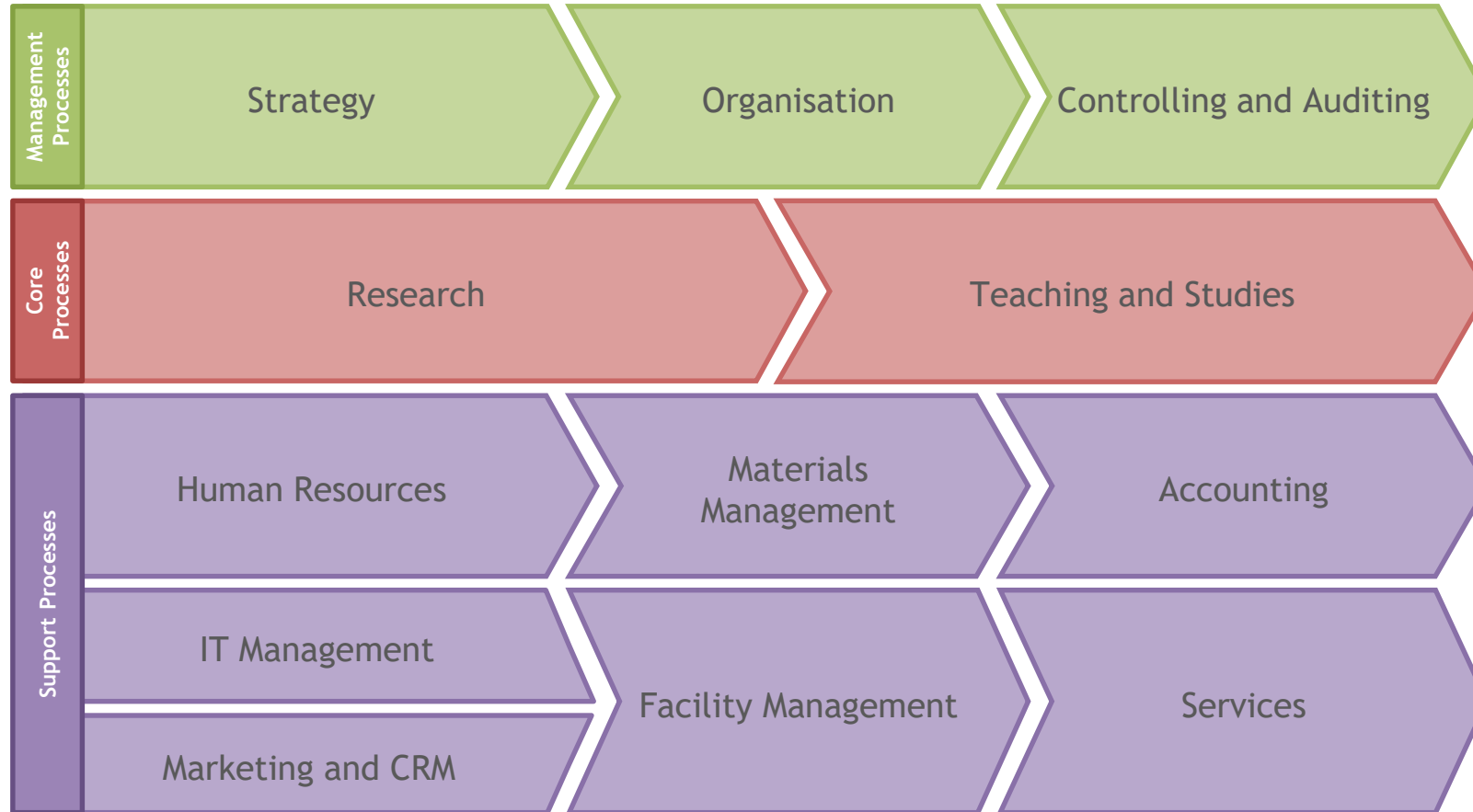
Hierarchies at the WWU



- The **Process Map** covers all activities of an organization.
- The **Process Area** covers the main processes belonging to a specific topic.
- The **Main Process** describes a task of a process area that can be delimited in terms of content.
- The **Process** describes a logically coherent and completed sequence of activities.
- The **Sub process** is a phase within the process.
- A **Process brick** corresponds to an activity.

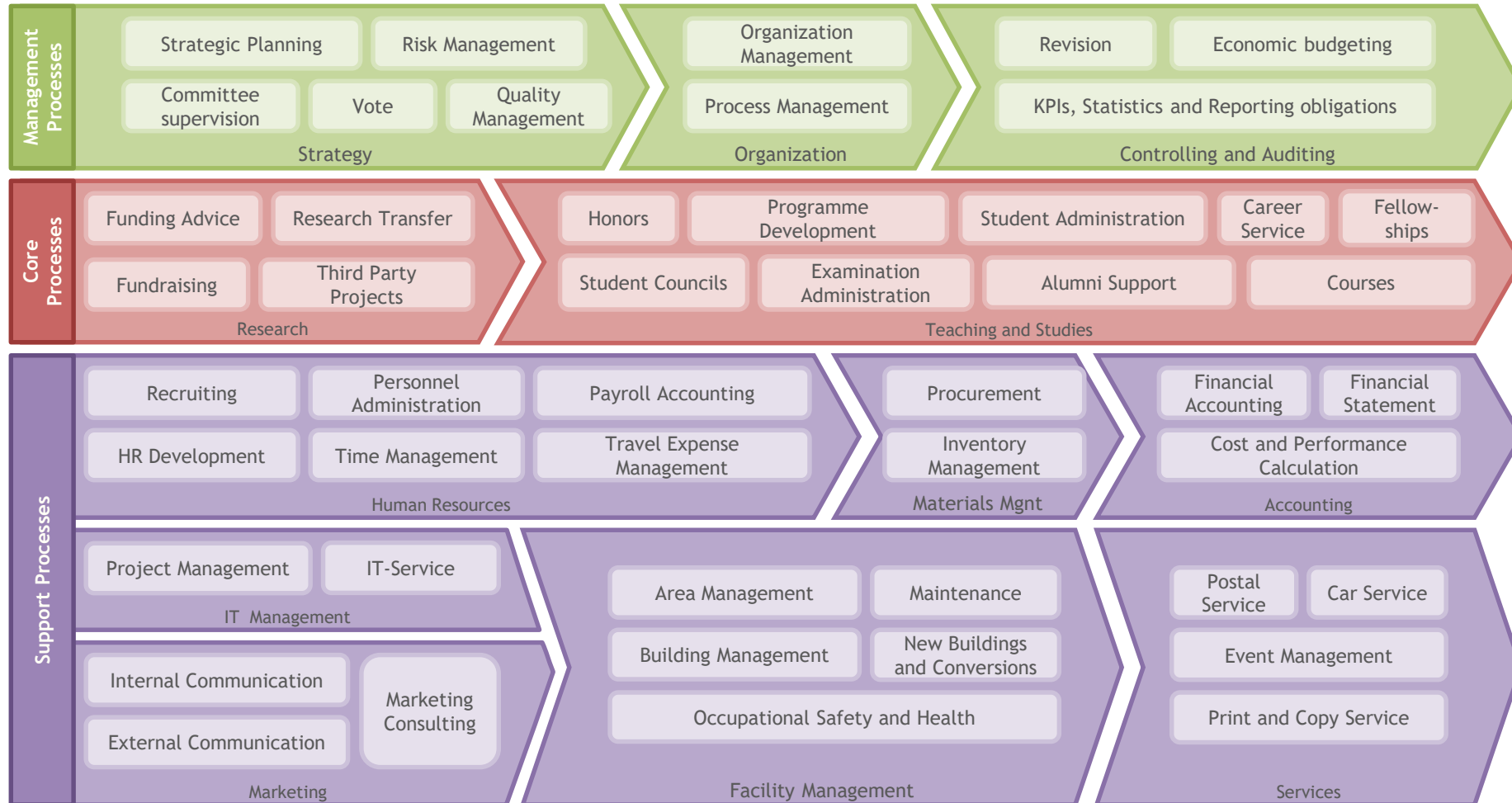
eGovernment Process Models

Process Landscape



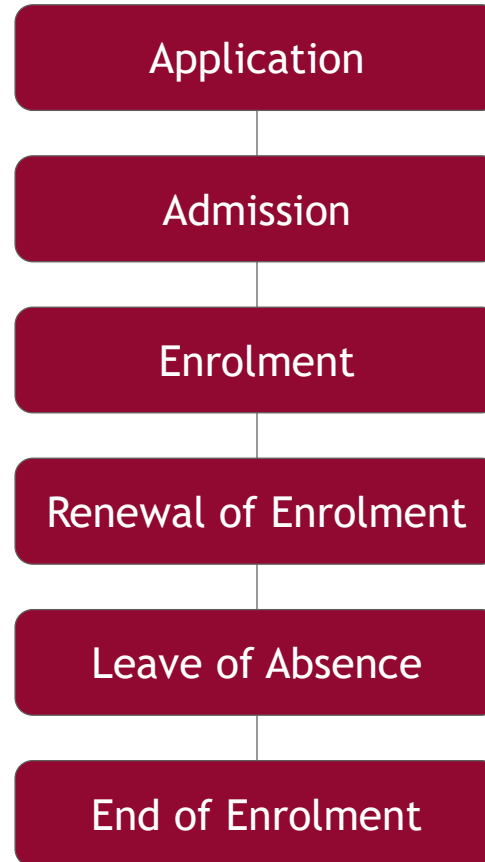
eGovernment Process Models

Process Landscape



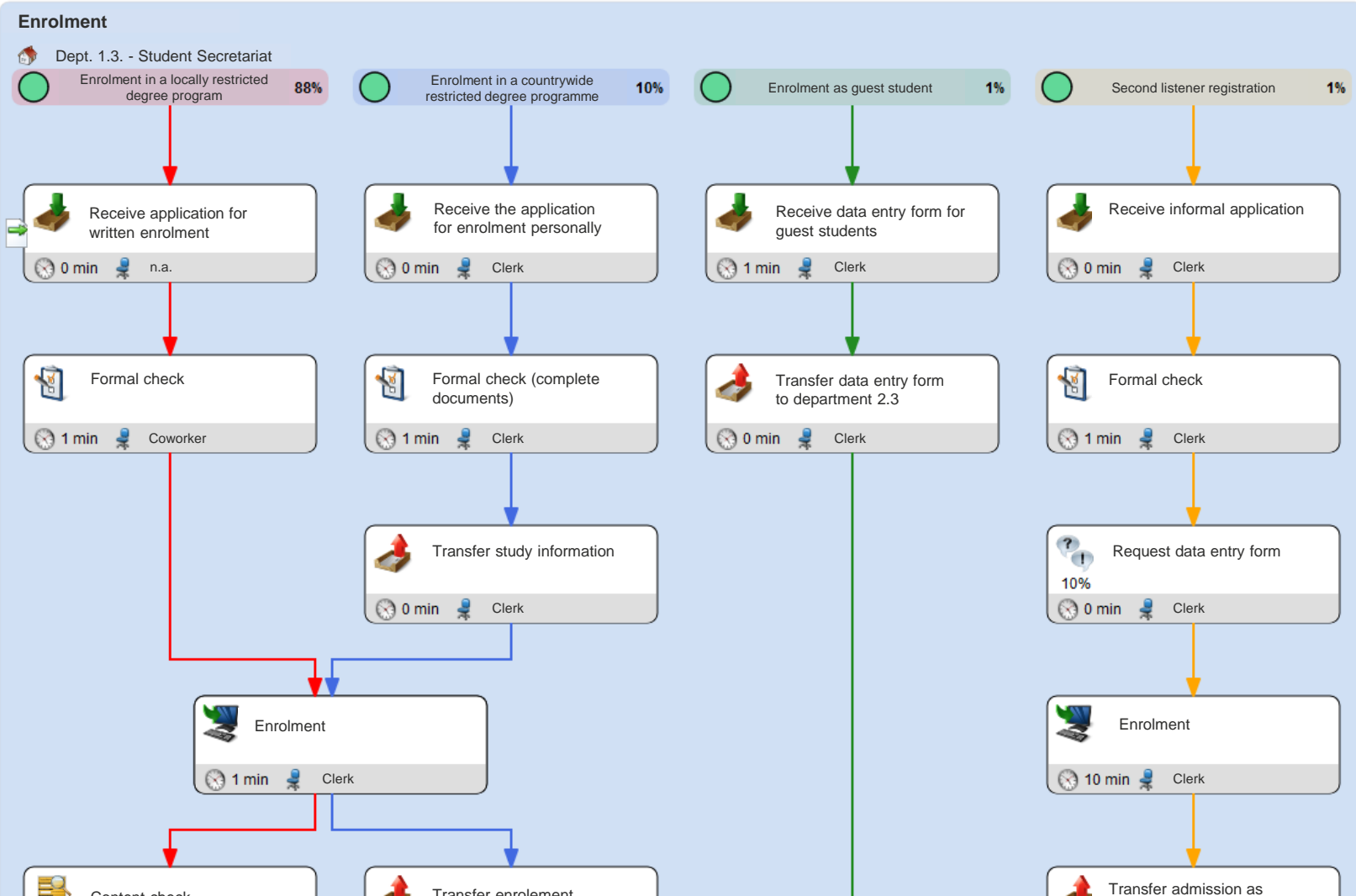
eGovernment Process Models

Main Process “Student Management”



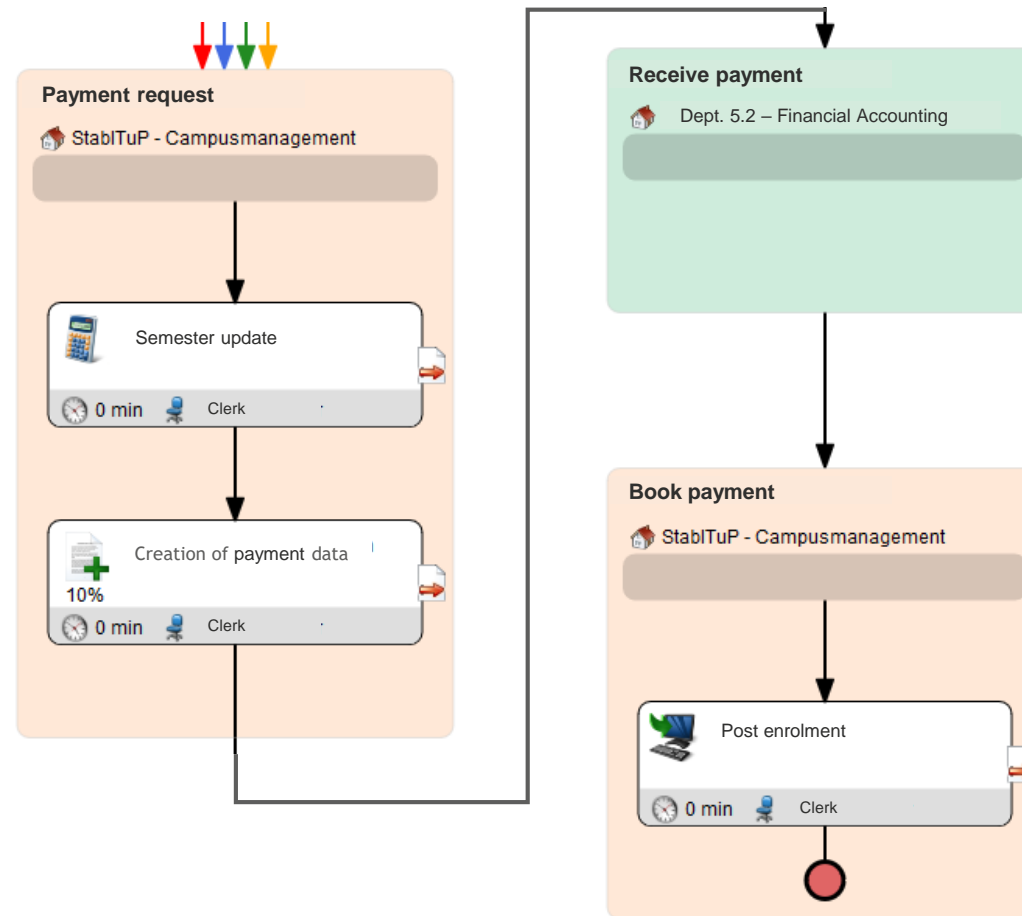
eGovernment Process Models

Detail Process “Enrolment”



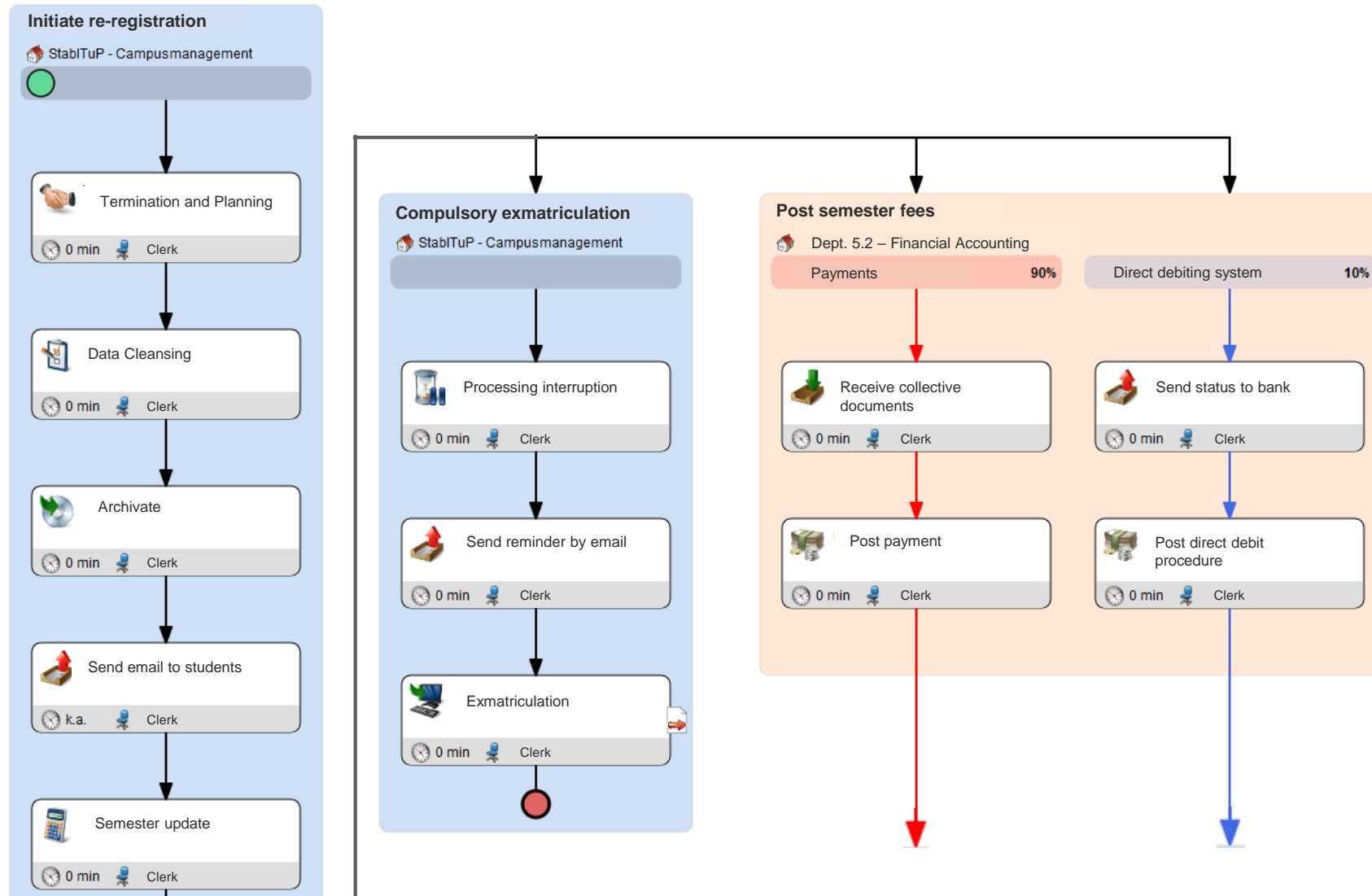
eGovernment Process Models

Detail Process “Enrolment”



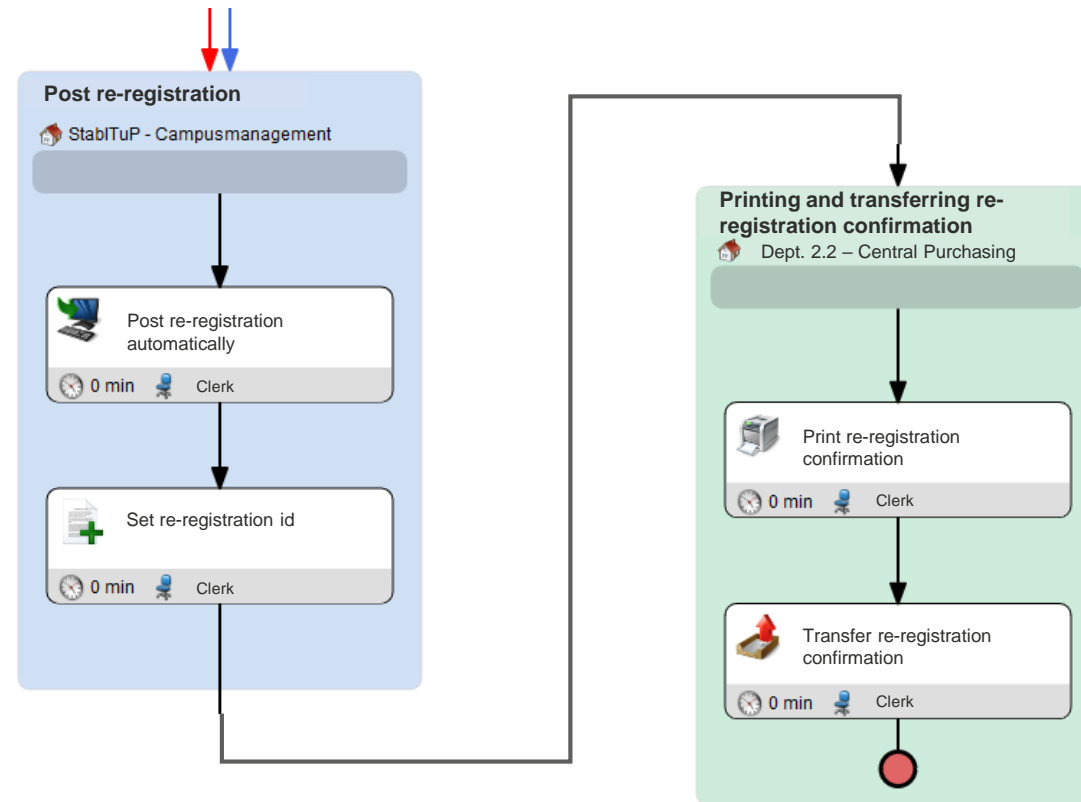
eGovernment Process Models

Detail Process “Renewal of Enrolment”



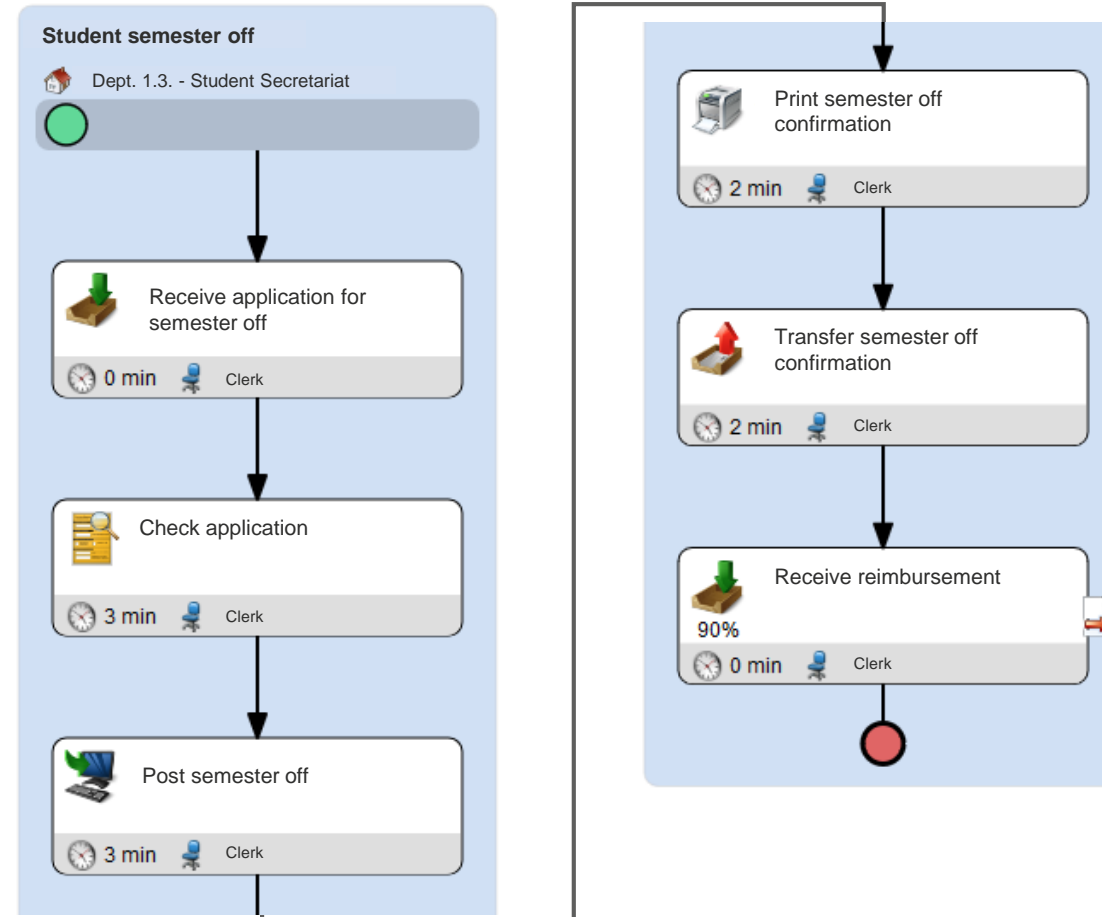
eGovernment Process Models

Detail Process “Renewal of Enrolment”



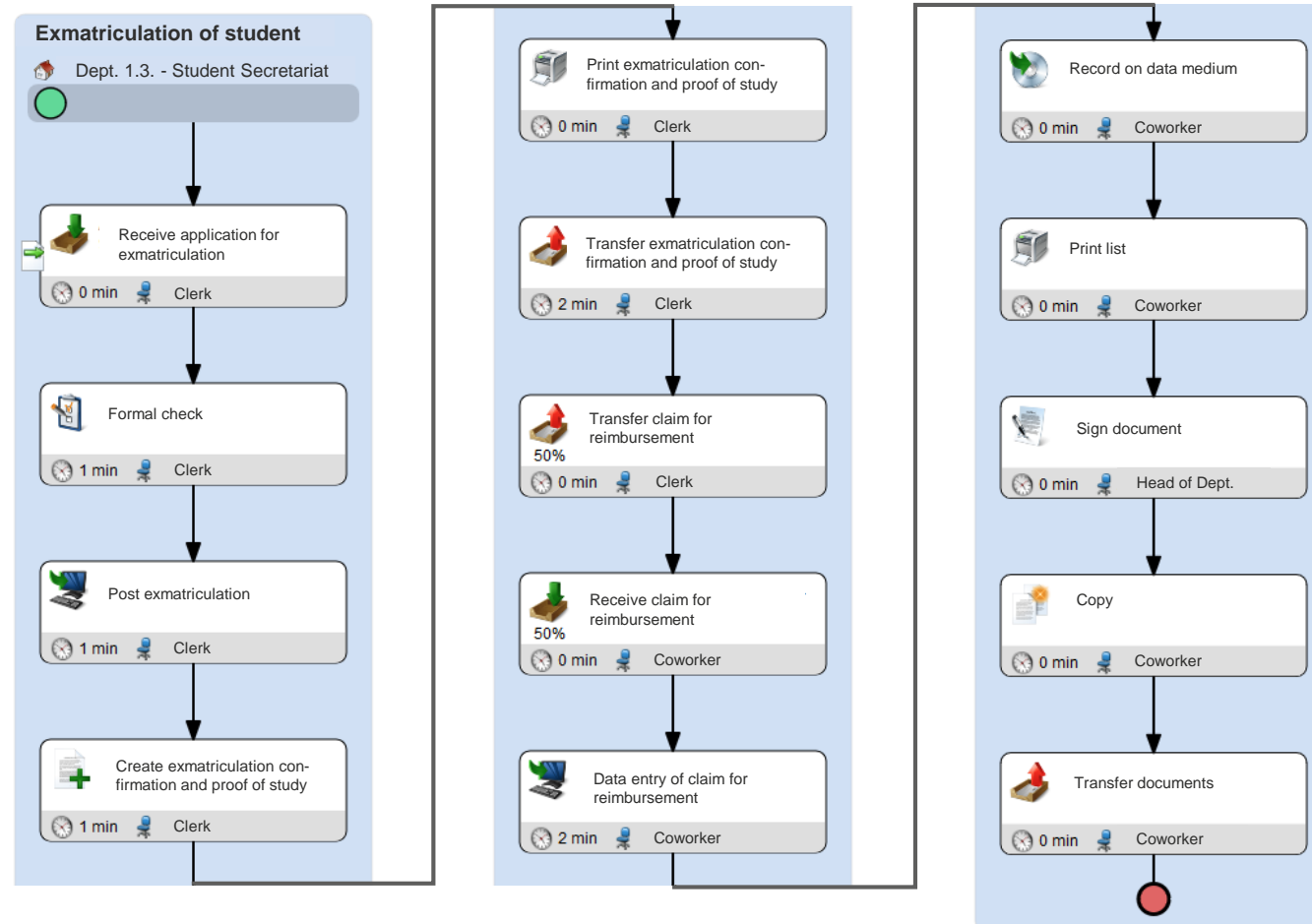
eGovernment Process Models

Detail Process “Leave of Absence”



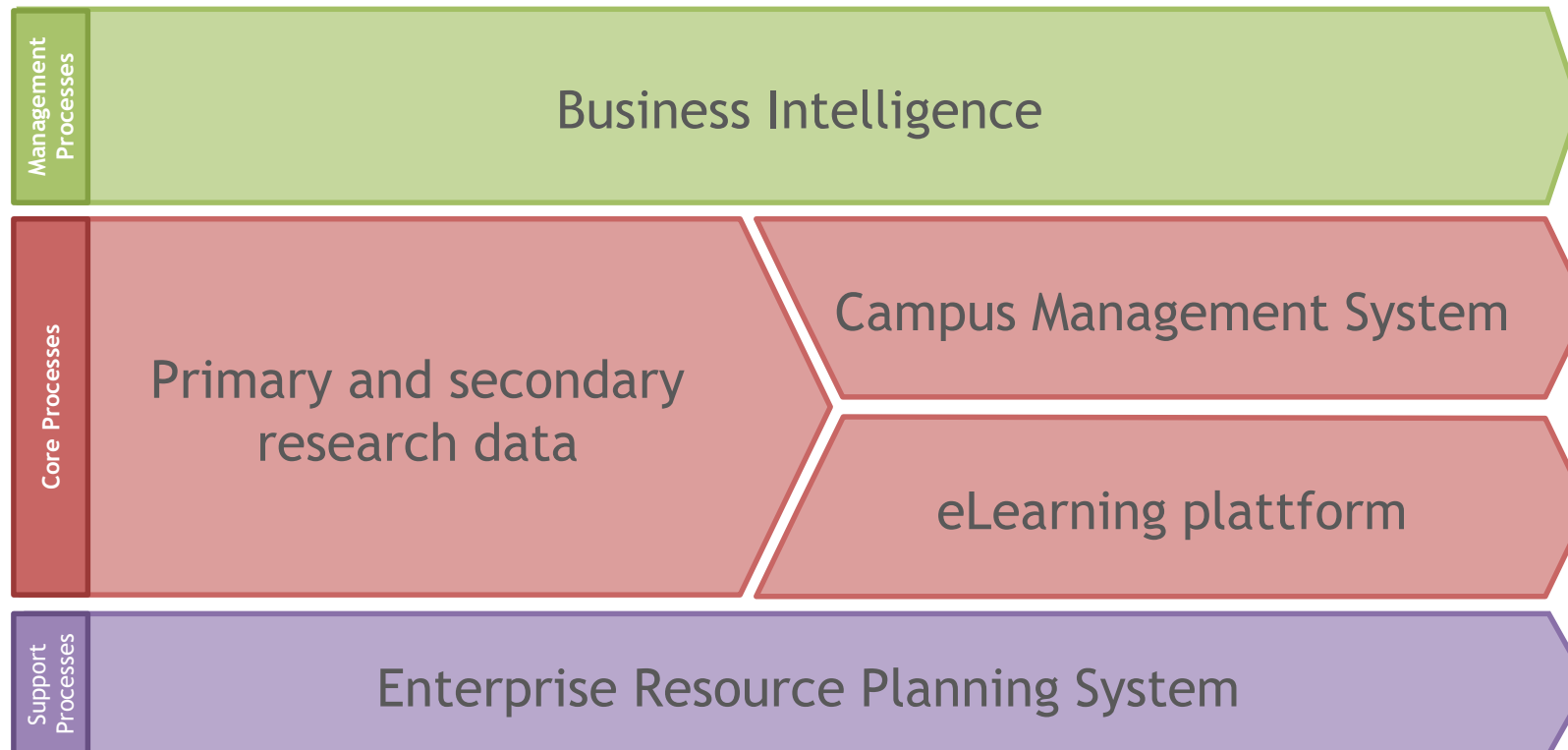
eGovernment Process Models

Detail Process “De-Registration”



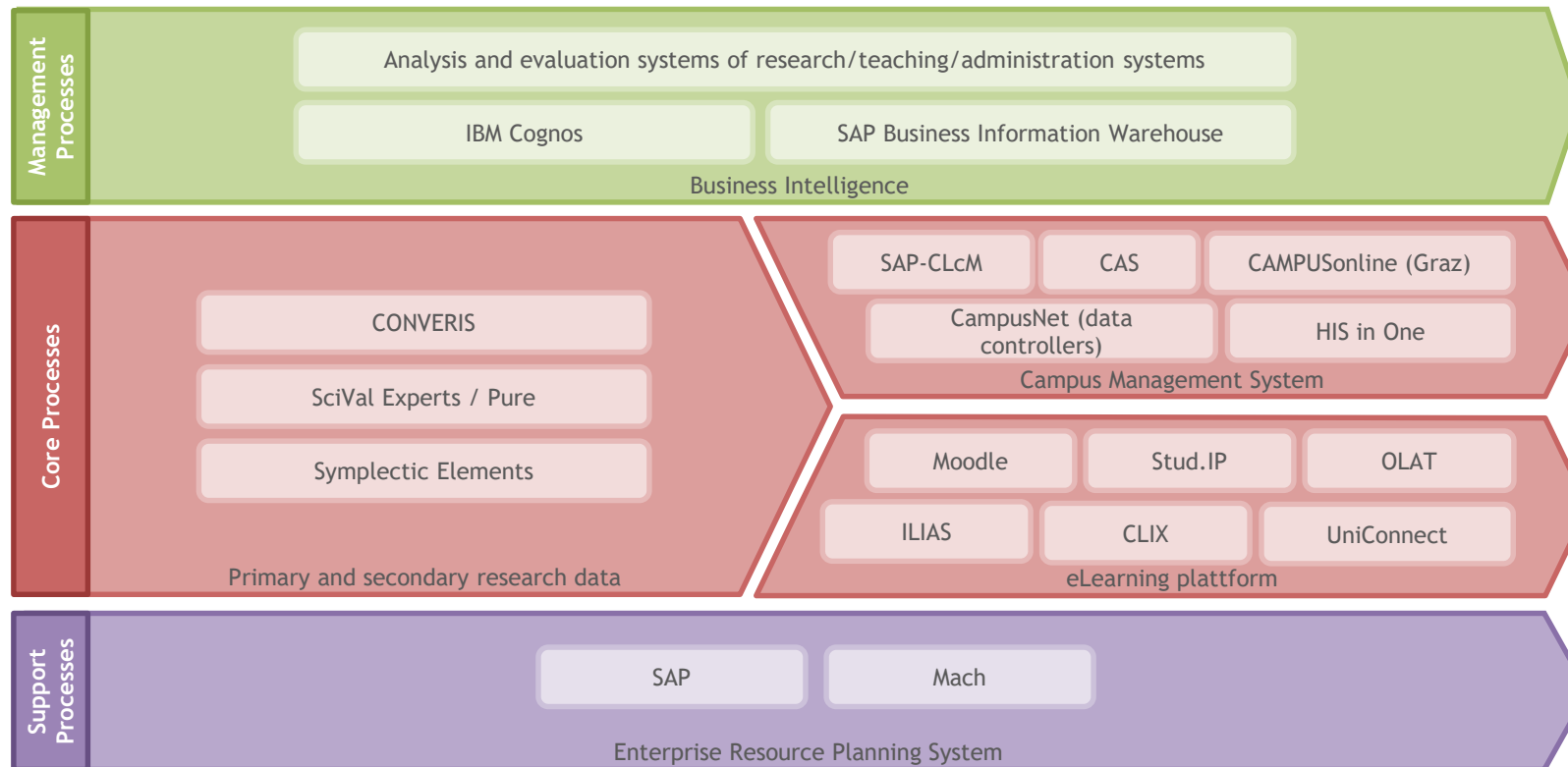
eGovernment Process Models

Information Systems within the Reference Model



eGovernment Process Models

Information Systems within the Reference Model



Retail

The H Reference Model

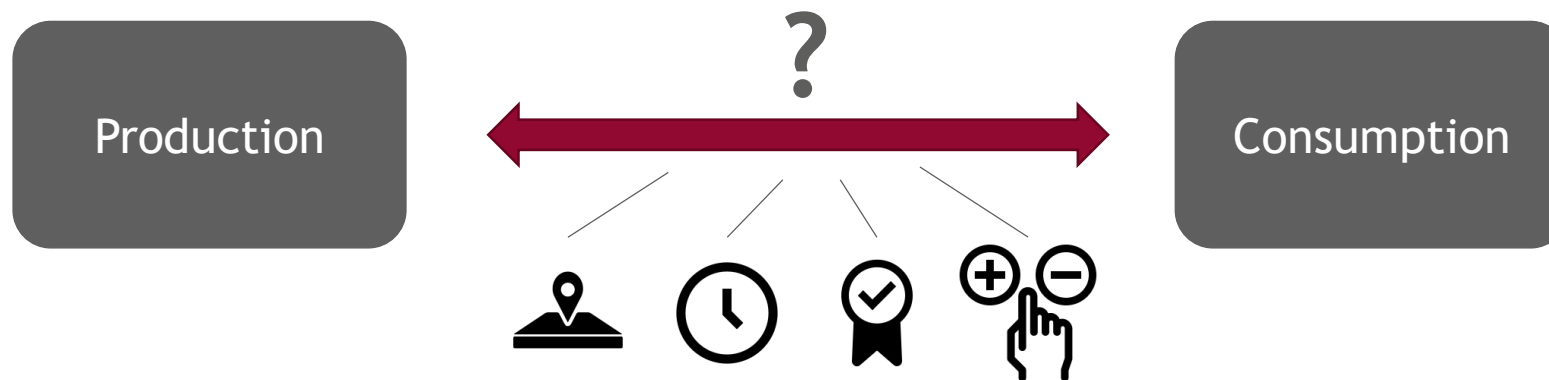


Retail

A Functional Definition



Exchange of goods, in order to bridge the gap which exists between production and consumption regarding location, time, quality and quantity.



Retail

An Institutional Definition



Those institutions specialized to perform the trade function within the value chain are considered to be “trading companies” in the institutional sense (as opposed to producers or consumers).



Retail

The H Reference Model



Retail

Characteristics Overview

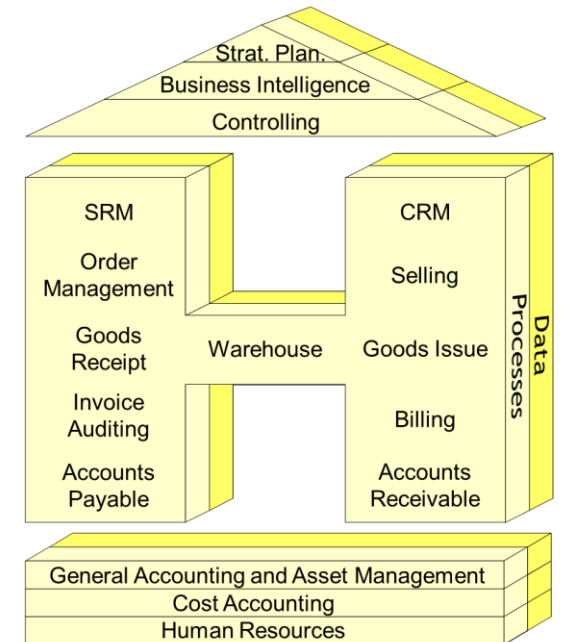
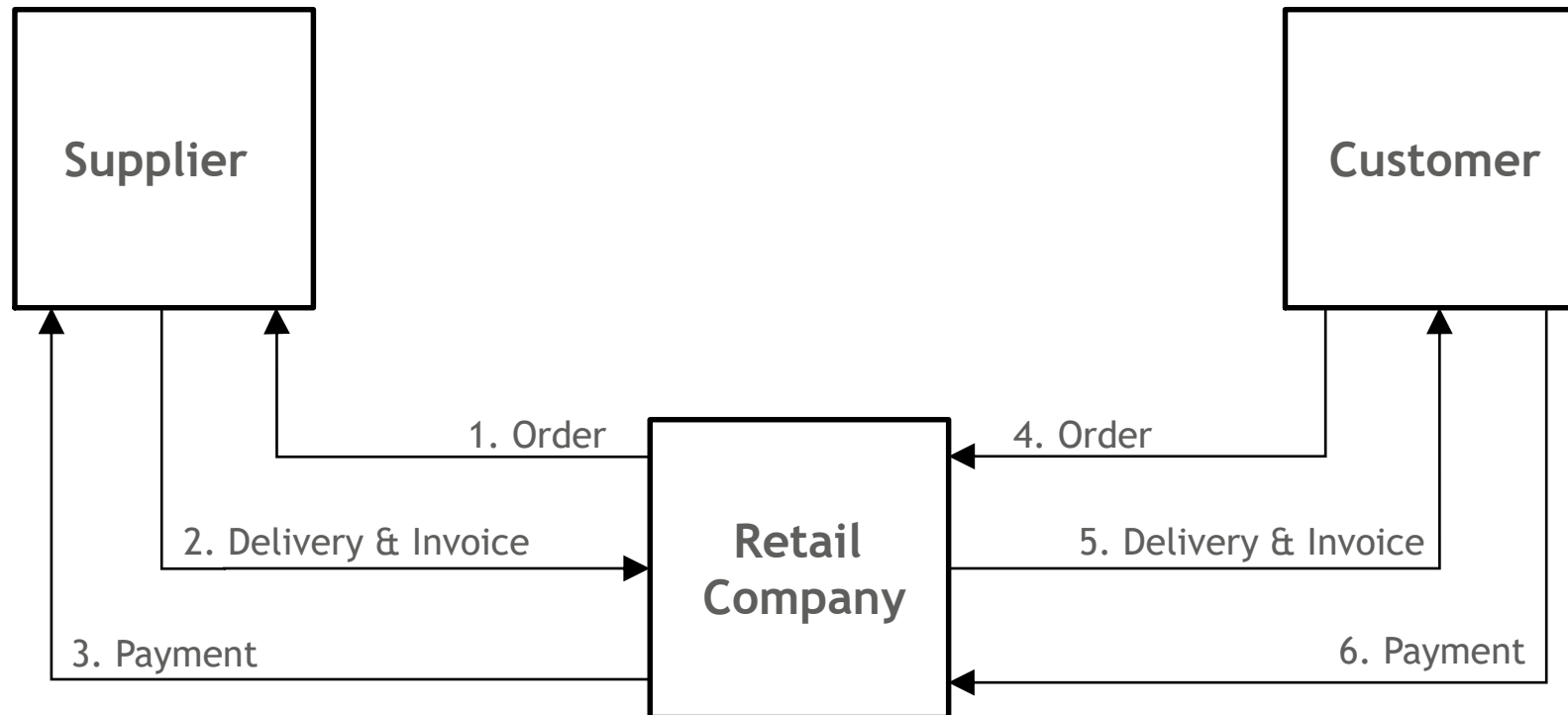


Characteristic	Values			
Level of trade	Retail		Wholesale	
Geographic targeting	Domestic		External	
Degree of organization	Market	Cooperation		Hierarchy
Degree of centralization	Decentral		Central	
Type of business	Warehouse	Drop shipping	Central settlement	Central clearance
Domain	Grocery	Fashion	Hardware	...
Sales contact group	Stationary	Ambulant	Distance	
Sales contact design	Self service	Vendor	Field service	Catalog
	Salesperson	...	Teleshopping	E-commerce
Logistics	Collection		Delivery	

Püster (2015, p. 40)

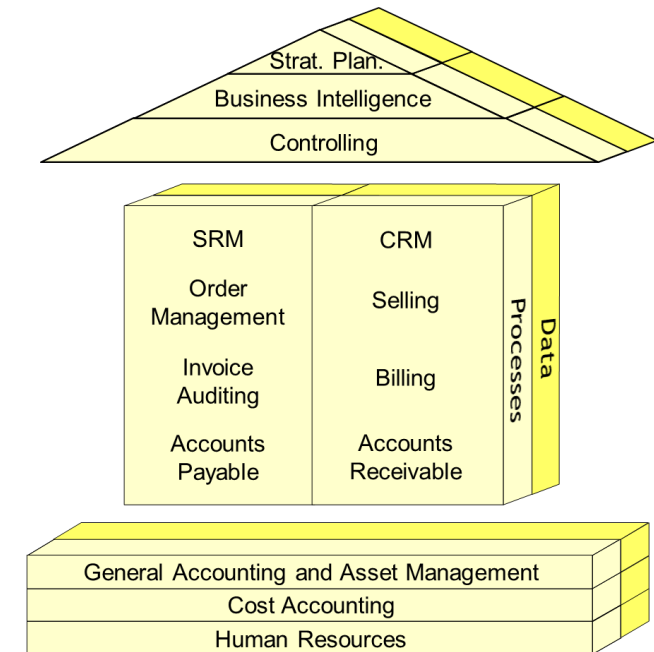
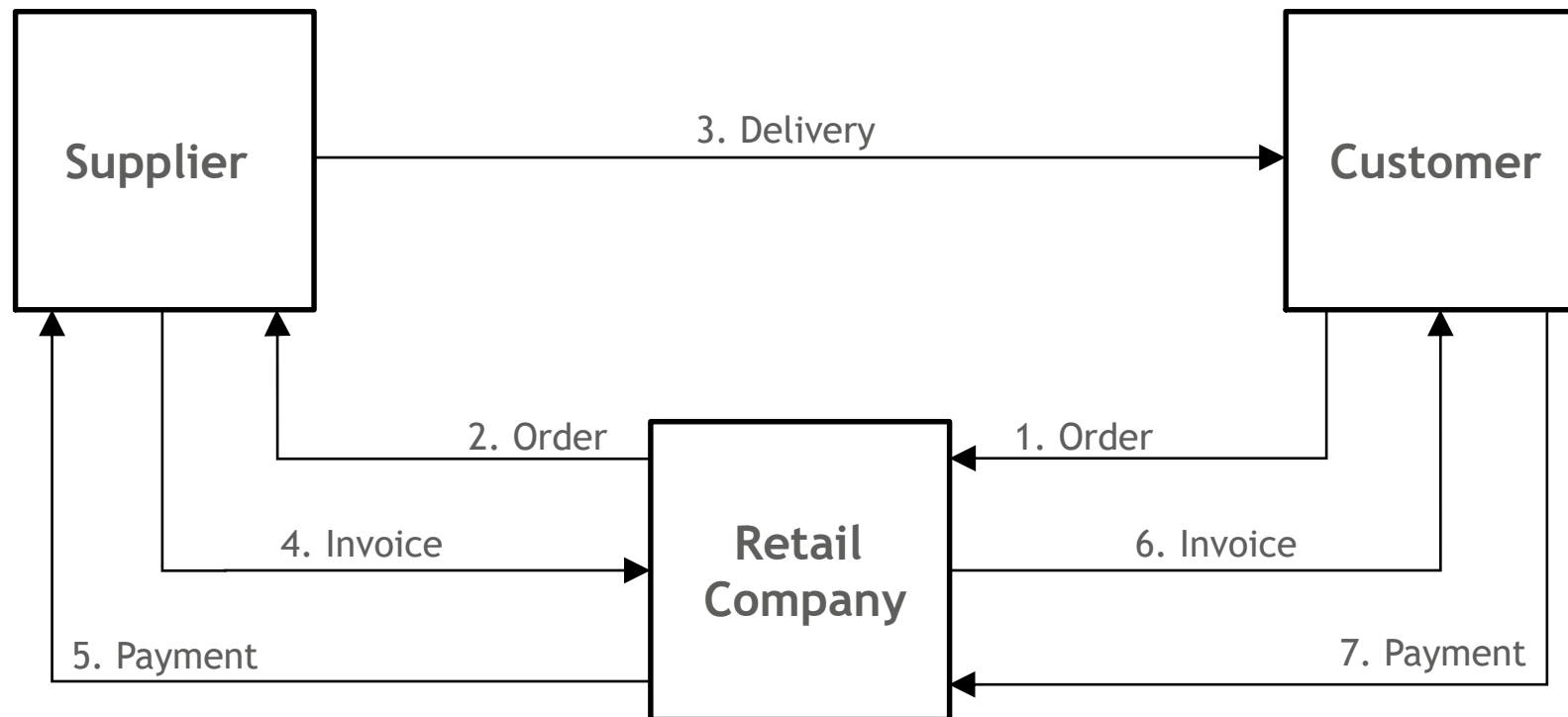
Retail Business Types

“Classical Retail”



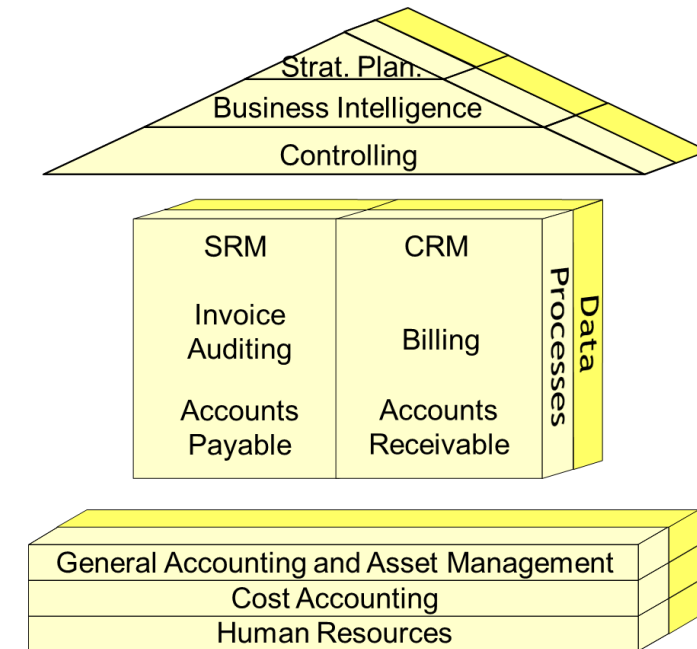
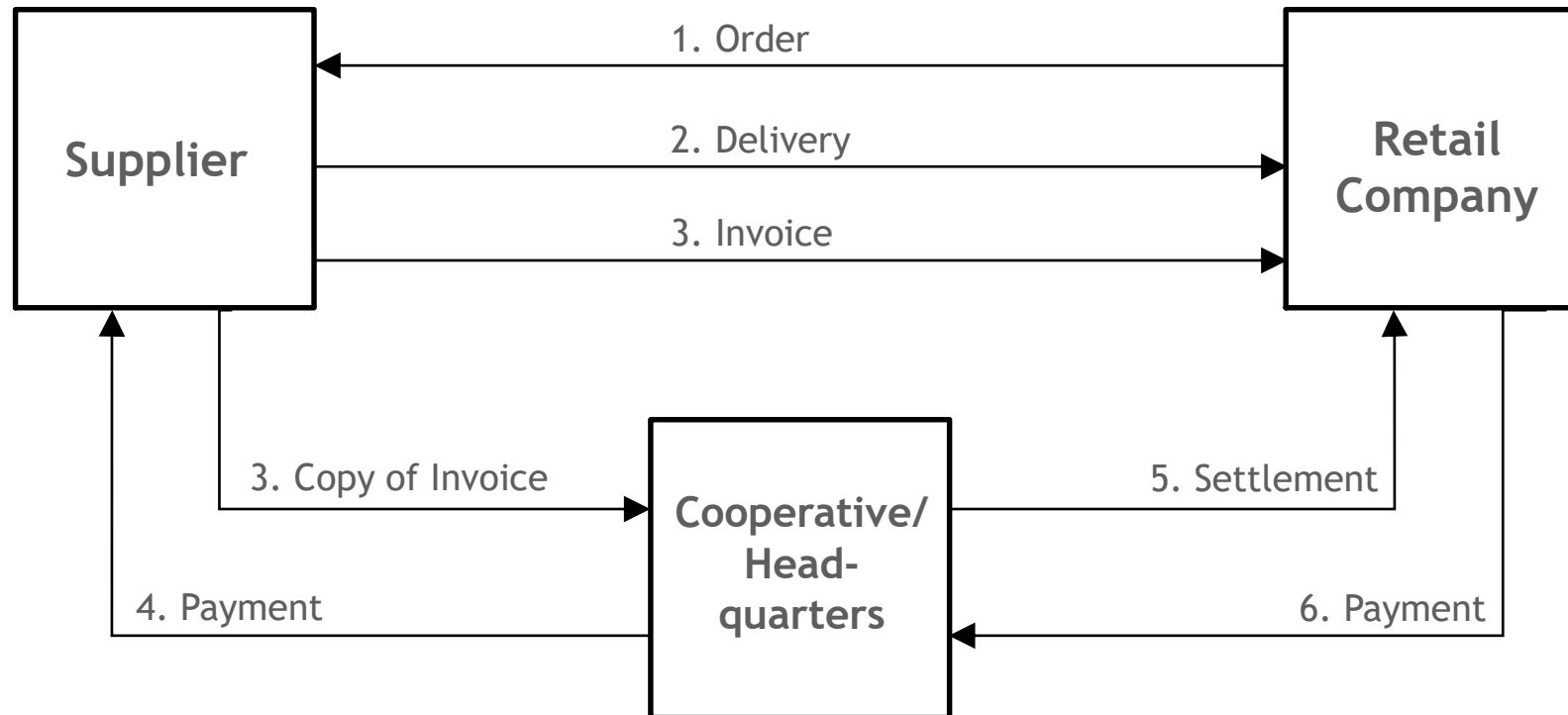
Retail Business Types

Drop Shipping



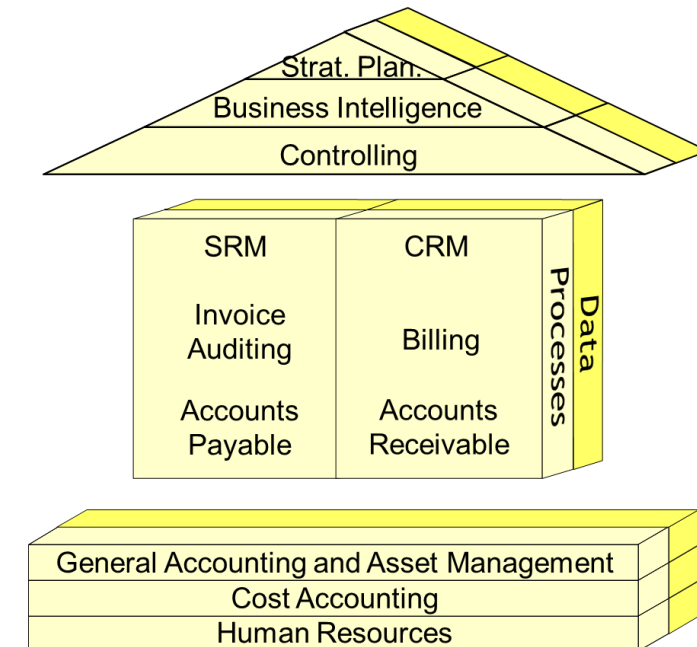
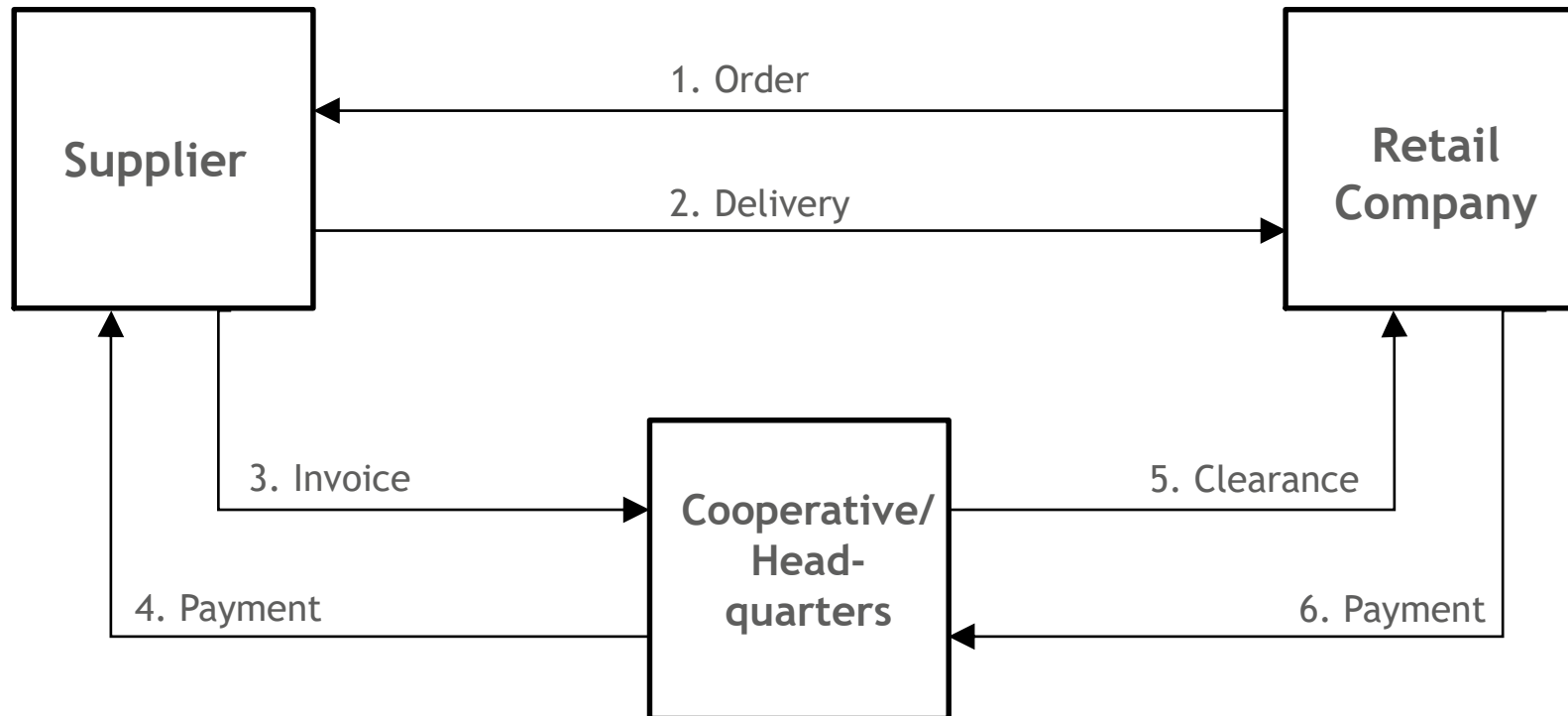
Retail Business Types

Central Settlement



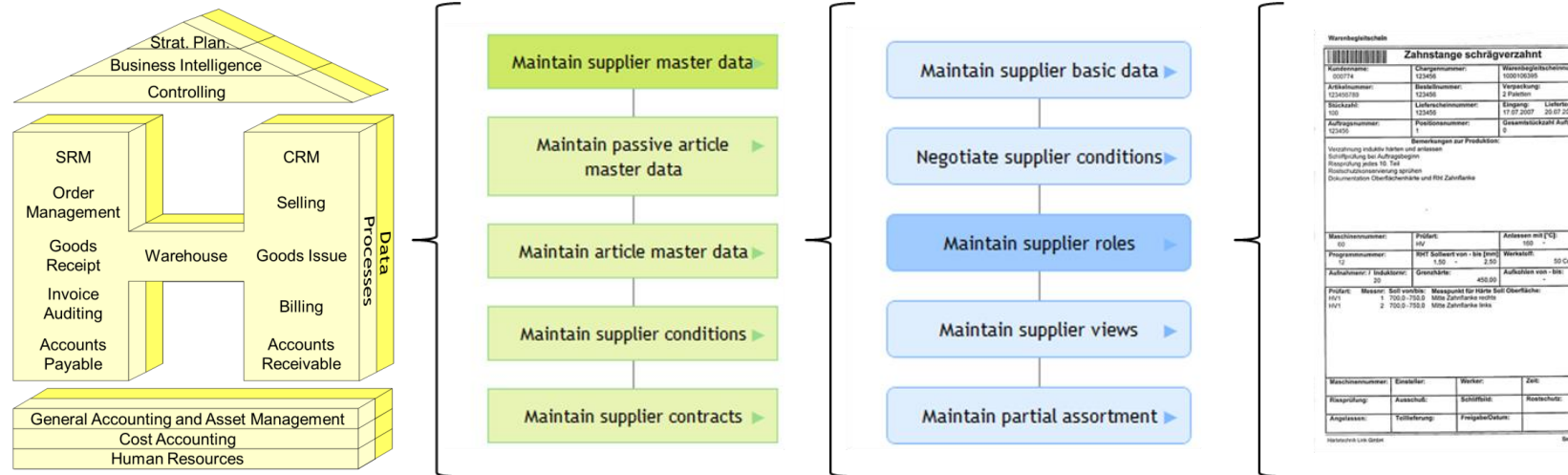
Retail Business Types

Central Settlement



The icebricks Approach

Overview



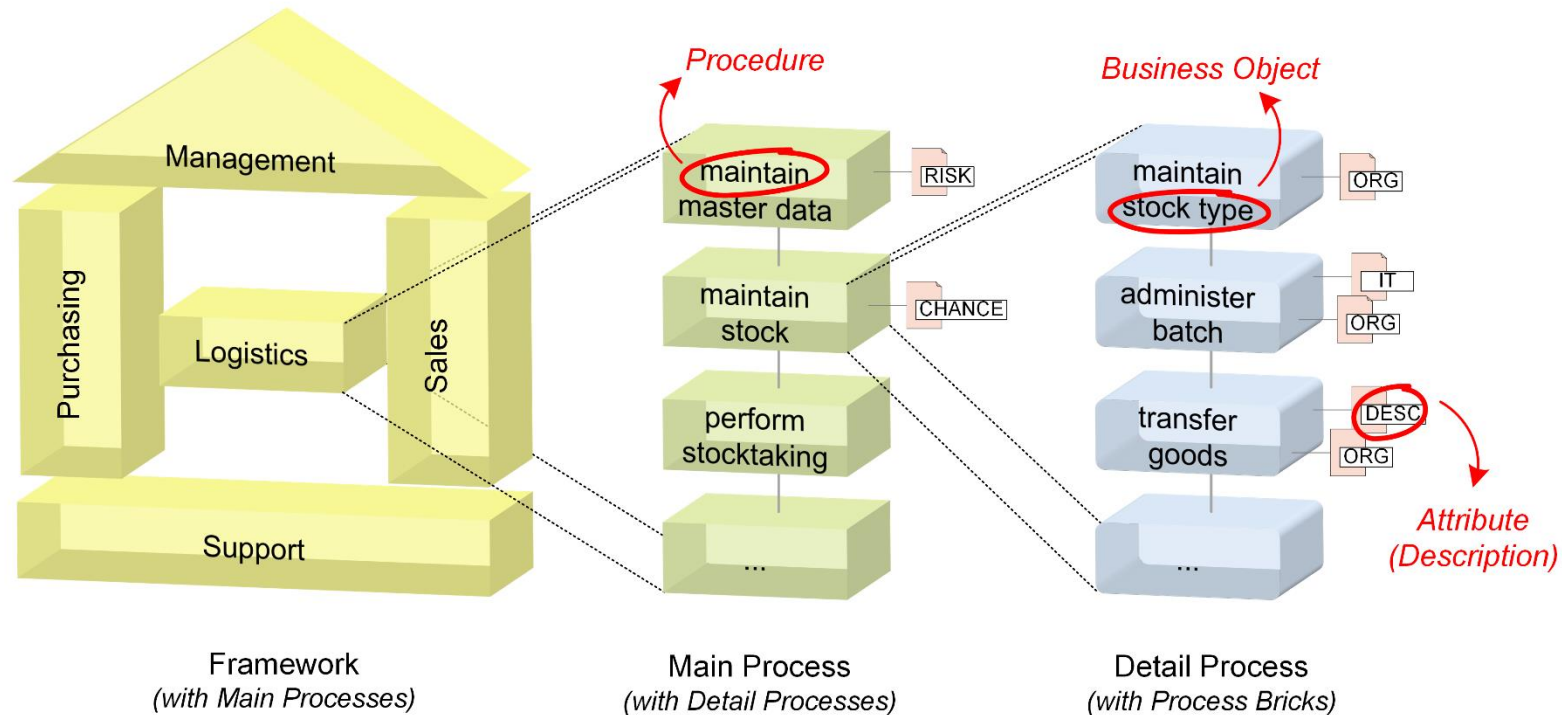
- Retail-H model as framework
 - 17 main processes
 - 100 detail processes
 - 433 process bricks

- Reference process structure
- Predefined glossaries and naming

Becker and Schütte (2004), Püster (2015)

The icebricks Approach

Conceptual Overview



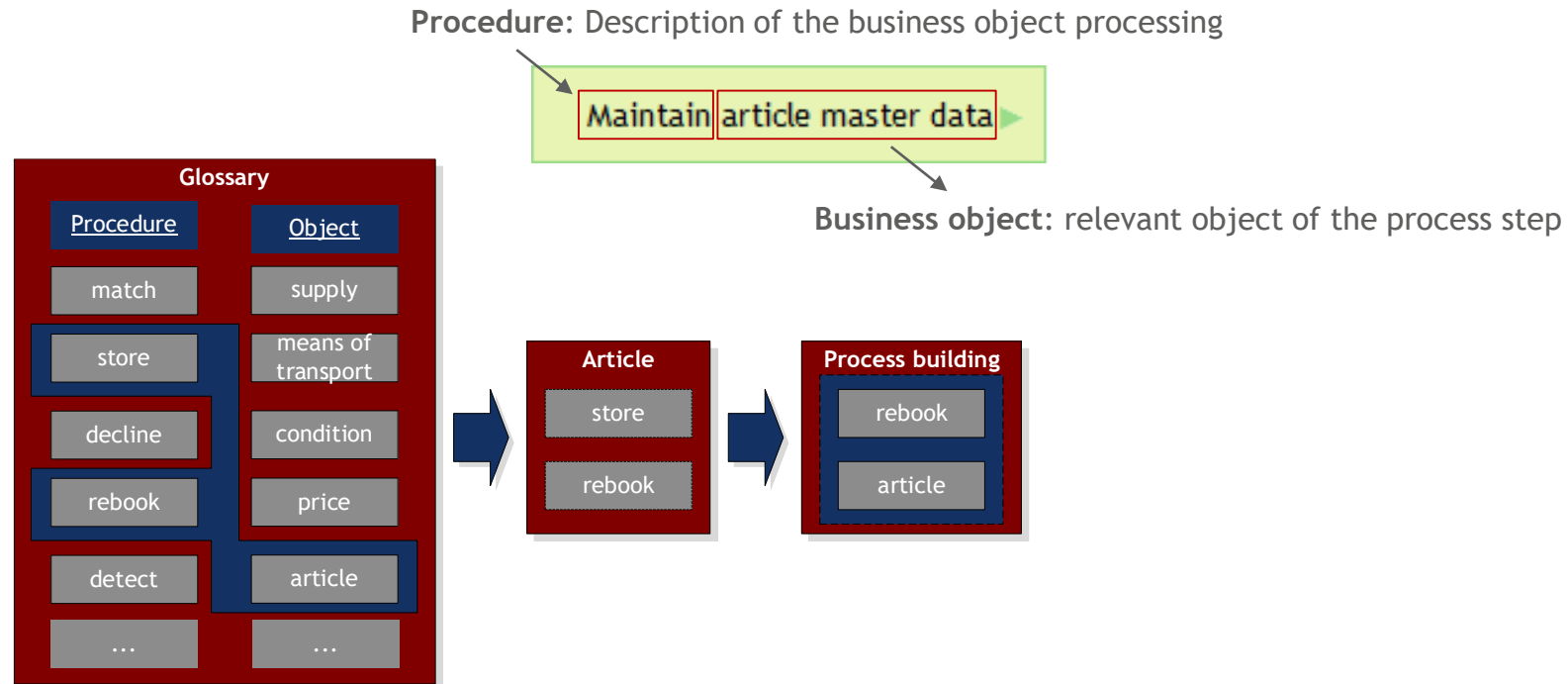
Strictly enforced 4-layer architecture!

The icebricks Approach

Terminological Standardization



- Glossary for business objects and procedures
- Naming based on naming convention



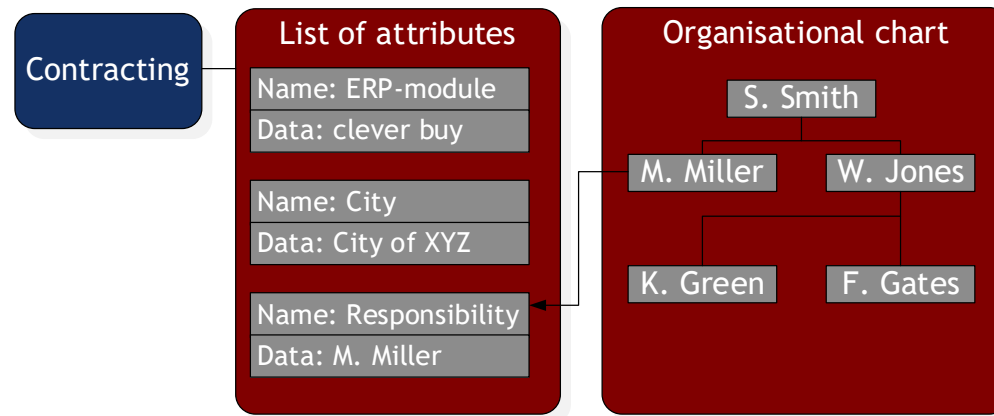
The icebricks Approach

Attributes



- Flexible enrichment of process elements
 - Attributes can be freely defined
 - Attributes have a name (e.g., description or responsible), a type (e.g., text or hierarchy), and a value (if assigned)

- Attribution on all layers



Conclusion

What we learned today!



Reality is Complex

... independent of Domain and Size ...

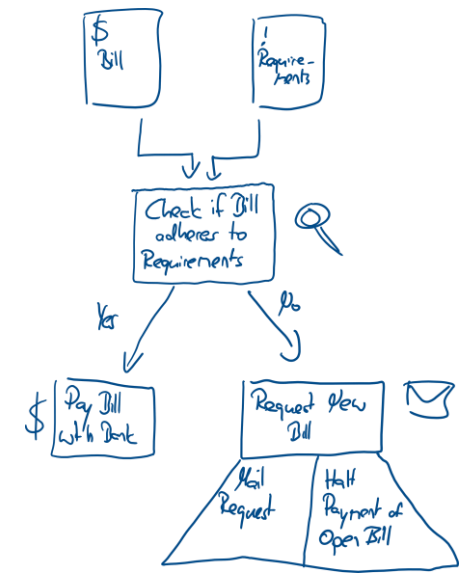
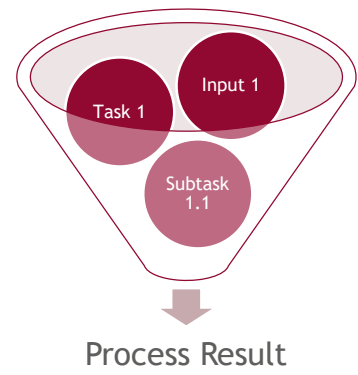


Process Models ...

... without Syntactical and Semantical Standardization



- Task 1.1
- Task 1.2.1



Recruitment process for scientific employees

Temporary (employees) | Permanent (employees / civil servants)

I. Basics

Vacant positions that can be filled for temporary academic staff are generally advertised at least within the university.

In principle, all full-time positions are also to be advertised as part-time positions; unless there are compelling business reasons that prevent a job sharing. In principle, the contract terms should be at least 1 year, in the case of third-party funded projects generally corresponding to the project term.

An advertisement can only be waived for:

1. Temporary employment without interruption
2. Employment relationships from third-party funds that are approved ad personam
3. Increase or decrease of existing employment contracts
4. Financing change

Should you, in exceptional cases, apply for a waiver of an advertisement for reasons other than those mentioned above, this application must be sent to Department 3.3 of the Human Resources Department! The equal opportunities officer and the scientific staff council are then involved through Department 3.3.

II. Procedure

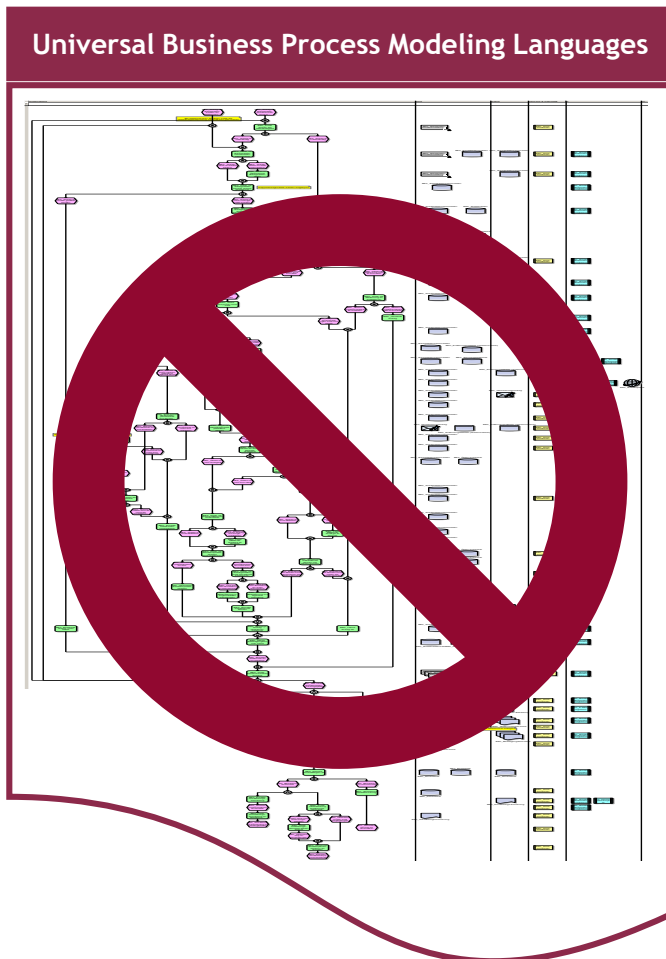
1. Send us the [application for an advertisement for a position](#) with any necessary attachments. The personnel department is responsible for the participation of the scientific staff council, the central equal opportunities officer and the representatives of the severely disabled.
2. The application period is at least 2 weeks from publication.
3. The announcement is published by the HR department. In addition, they must inform the representative of the severely disabled about every application from severely disabled people. **If severely disabled people have applied, they must be invited to an interview.** An invitation can only be dispensed with if it is determined in agreement with the representatives of the severely disabled that the professional qualification is obviously lacking. These facts must be put on record, stating the reasons, and the severely disabled applicant must be informed immediately.

It is recommended to also inform relevant professional societies and institutes of other universities of the announcement.

If, in exceptional cases, an advertisement in other media is desired, the university institution placing the advertisement should contact the Westpress advertising agency so that it can claim the university bonus. The contact person is Ms. Hippers from the advertising agency Westpress.

Process Models ...

... with Syntactical Standardization but without Semantical Standardization

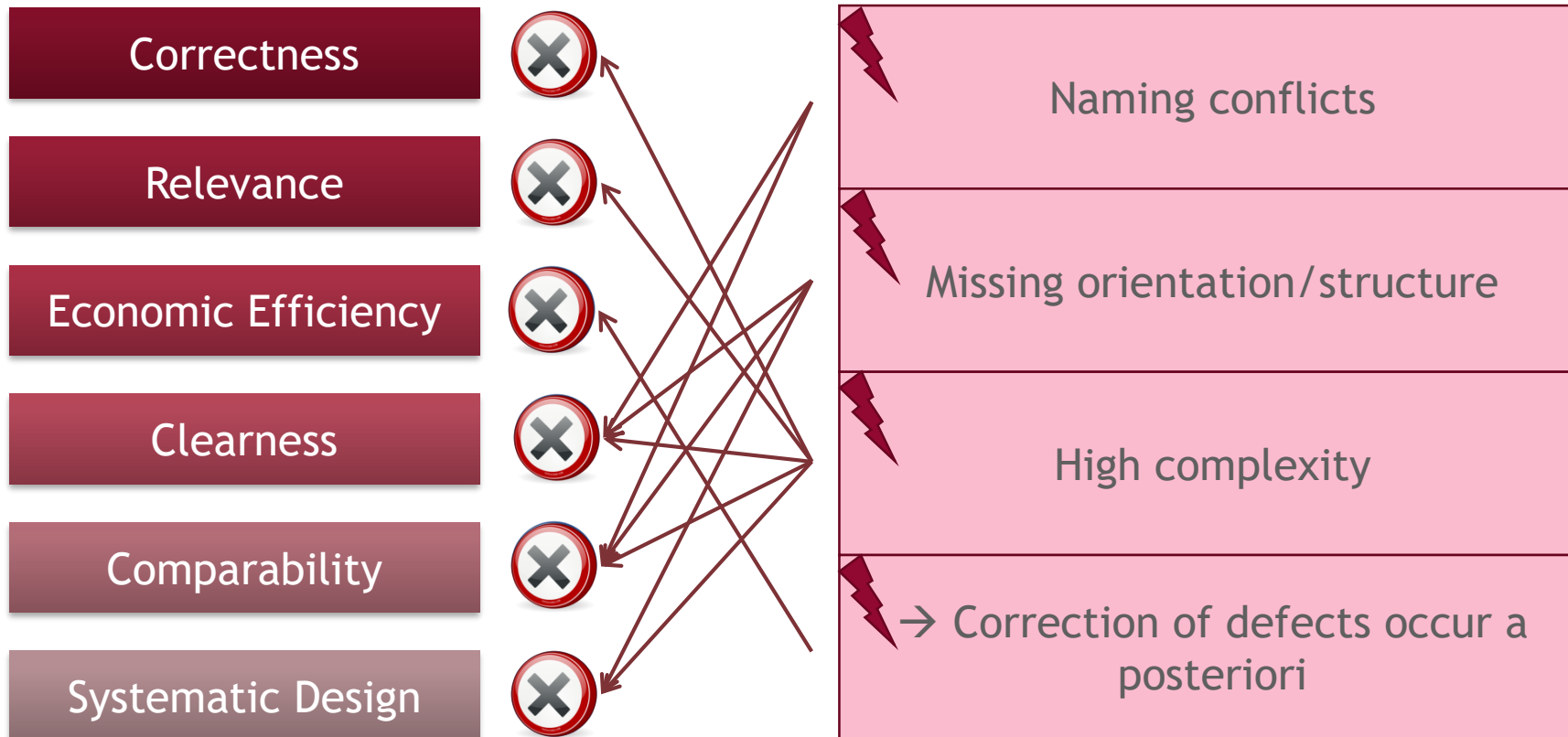


Problems of many approaches

- Hard to understand (domain neutral)
- Hard to compare (high freedom degrees)
- Hard to explain (expert knowledge necessary)
- Hardly affordable (very detailed modeling, not economical)
- Hardly usable (missing semantic analysis capabilities)

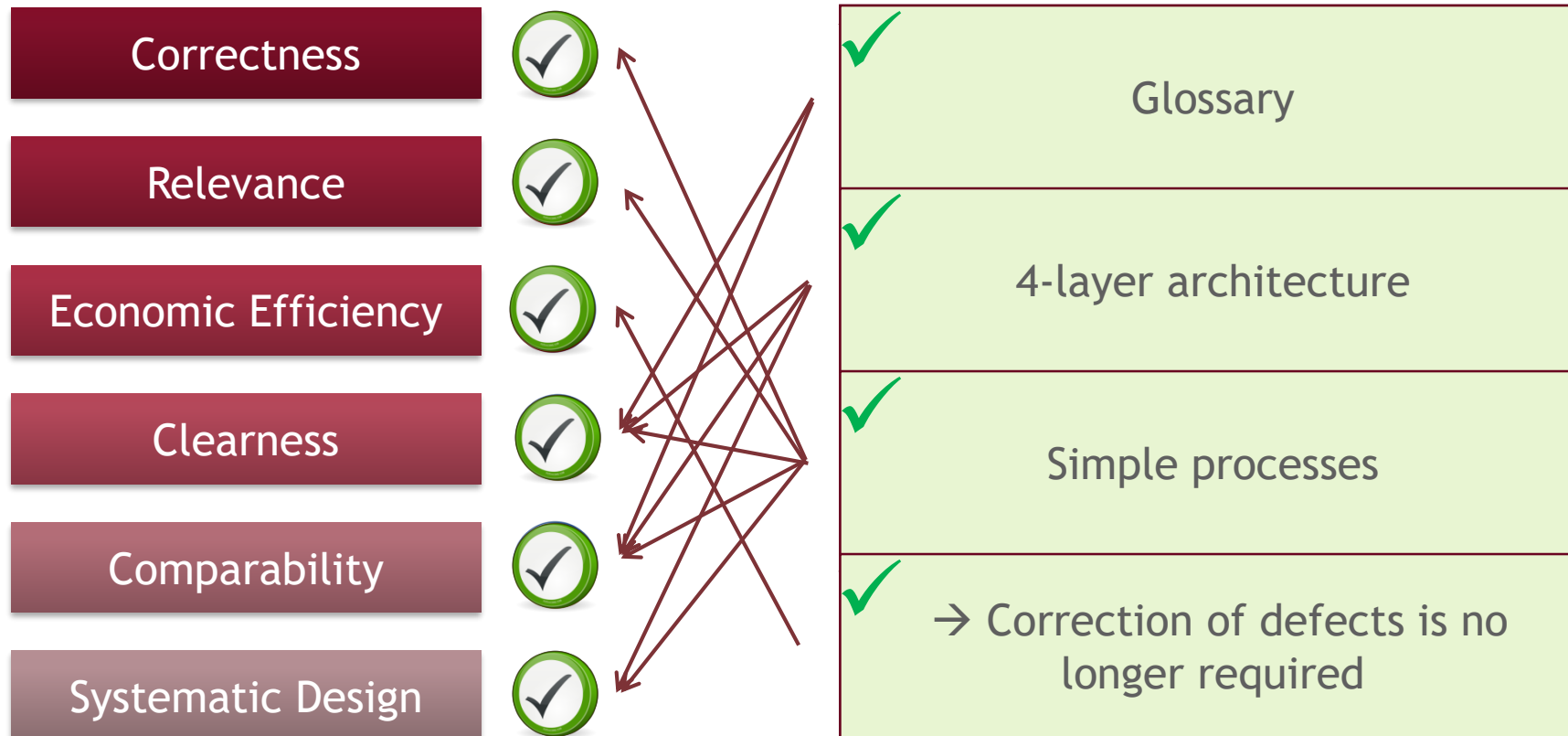
Process Models ...

... with Syntactical Standardization but without Semantical Standardization



Process Models ...

... with Syntactical and Semantical Standardization (Domain Knowledge)





References



- Becker J., Kahn D. (2012) Der Prozess im Fokus. In: Becker J., Kugeler M., Rosemann M. (eds) Prozessmanagement. Springer Gabler, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-33844-1_1
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