

Business Processes Based Information Systems Development

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Structure of the presentation

1. Reasons for the methodology of Business Processes Analysis
2. Underlying principles
3. Main features of the methodology
4. Process of BP analysis
5. Conclusions / Summary

Reasons for the methodology of BPA

In the area of **BPR** theory

- ✓ there is an actual need for the means (i.e. techniques, tools and methods) for **identifying the substance of the processes** to be (re)engineered

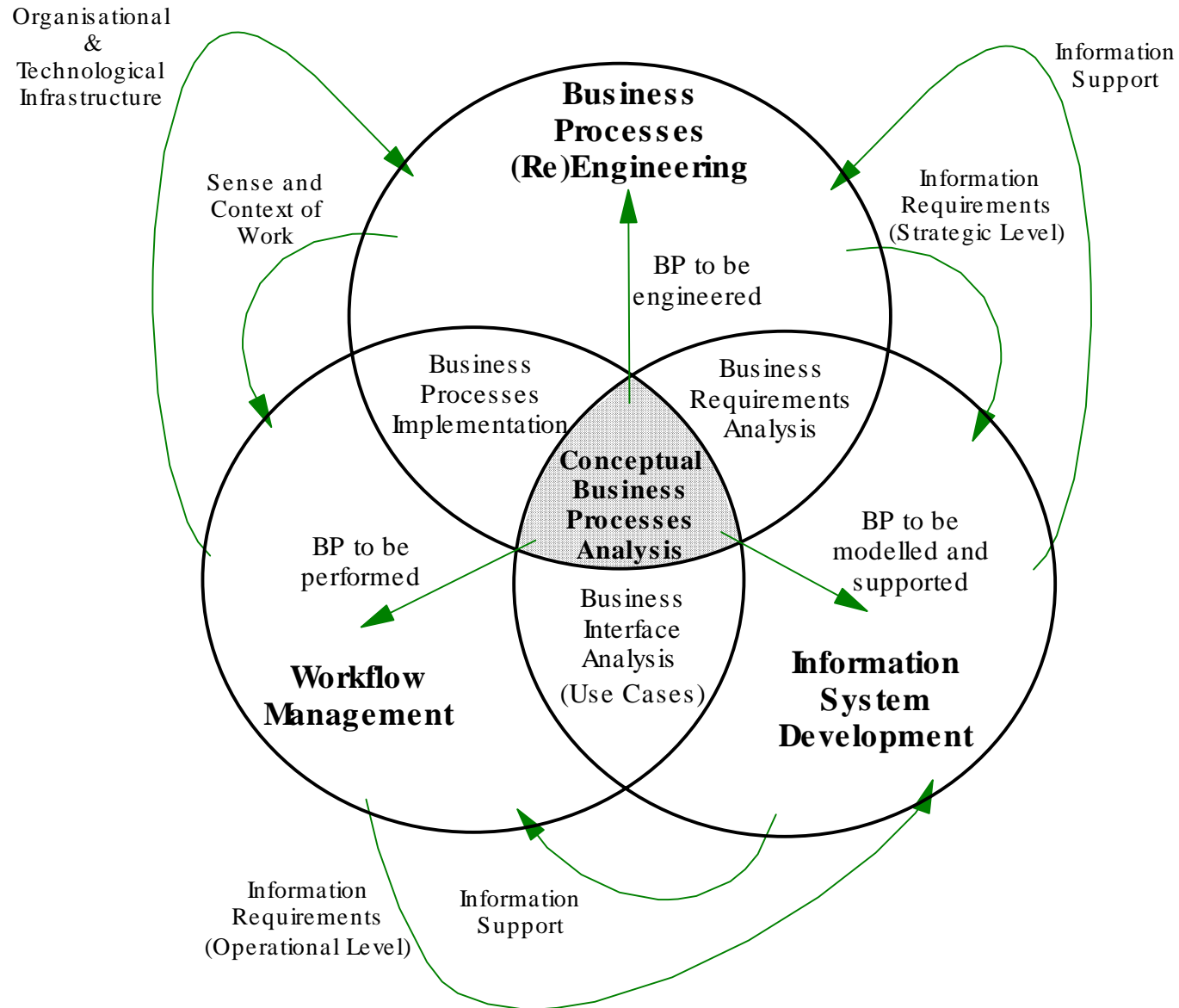
In the area of **Workflow Management**

- ✓ supporting IT products become more and more interesting and useful
- ✓ as the consequence of this fact there is more and more actual the theory which answers the basic question: „**What is the origin of the workflow** and where the substantial rules for it are to be looked for?“.

In the process of **Information Systems Development**

- ✓ we need to identify the **real substance of the activities to be supported** by the IS at first
- ✓ on the conceptual level of system modelling, **the real world** should be modelled

Convergence of BPR, ISD and Workflow



Underlying Principles

Principle of Modelling

- ✓ The **overall activity** of the organisation (in the sense of the system of particular processes) is **the model of basic goals and objectives** of the organisation completed by the facts which influence the possibilities of achieving these goals.
- ✓ **objective basis** for the implementation of the business processes in the organisation must be constituted by **real facts existing outside of and independently on the organisation**
 - **critical factors**
 - **external events** (critical changes of the critical factors values)**process trigger**

Purpose of the Principle of Modelling

- ✓ 1. it defines the **basis for the analysis** (what is the essential substance to be analysed)
- ✓ 2. it leads to creation of such system of business processes which:
 - is able to **react on each substantial change** requiring also the change in business processes (changes of goals, objectives and critical factors)
 - **is optimal**- it consists of all processes which are necessary in given business conditions and only of those processes.

Underlying Principles

Principle of **Different Process Architectures**

✓ need to distinguish between:

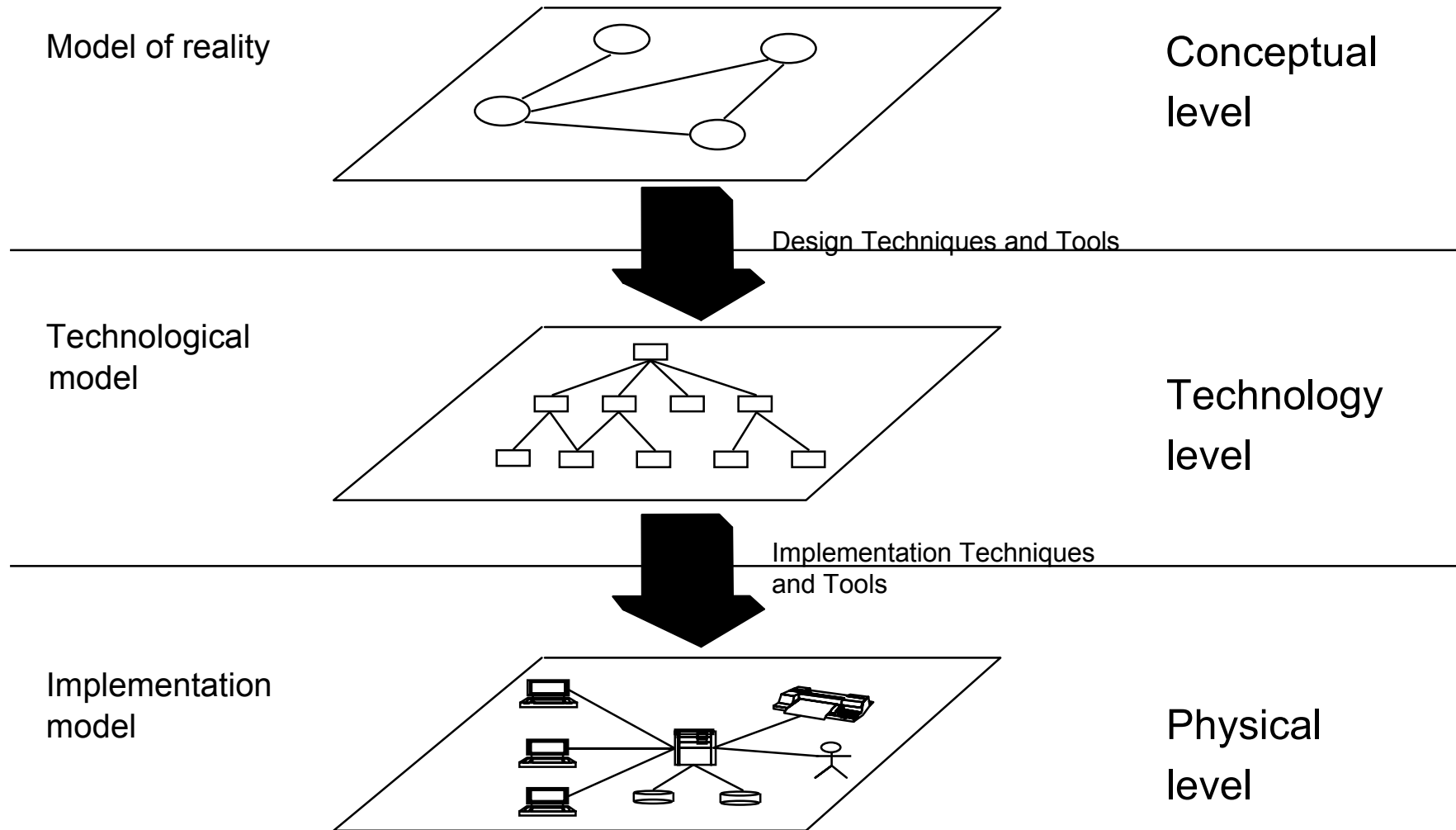
- characteristics of the process given by objective facts
 - „**conceptual characteristics of the process**“
- characteristics of the process given by particular context of the implementation - „**implementation characteristics of the process**“

Principle of **Abstraction**

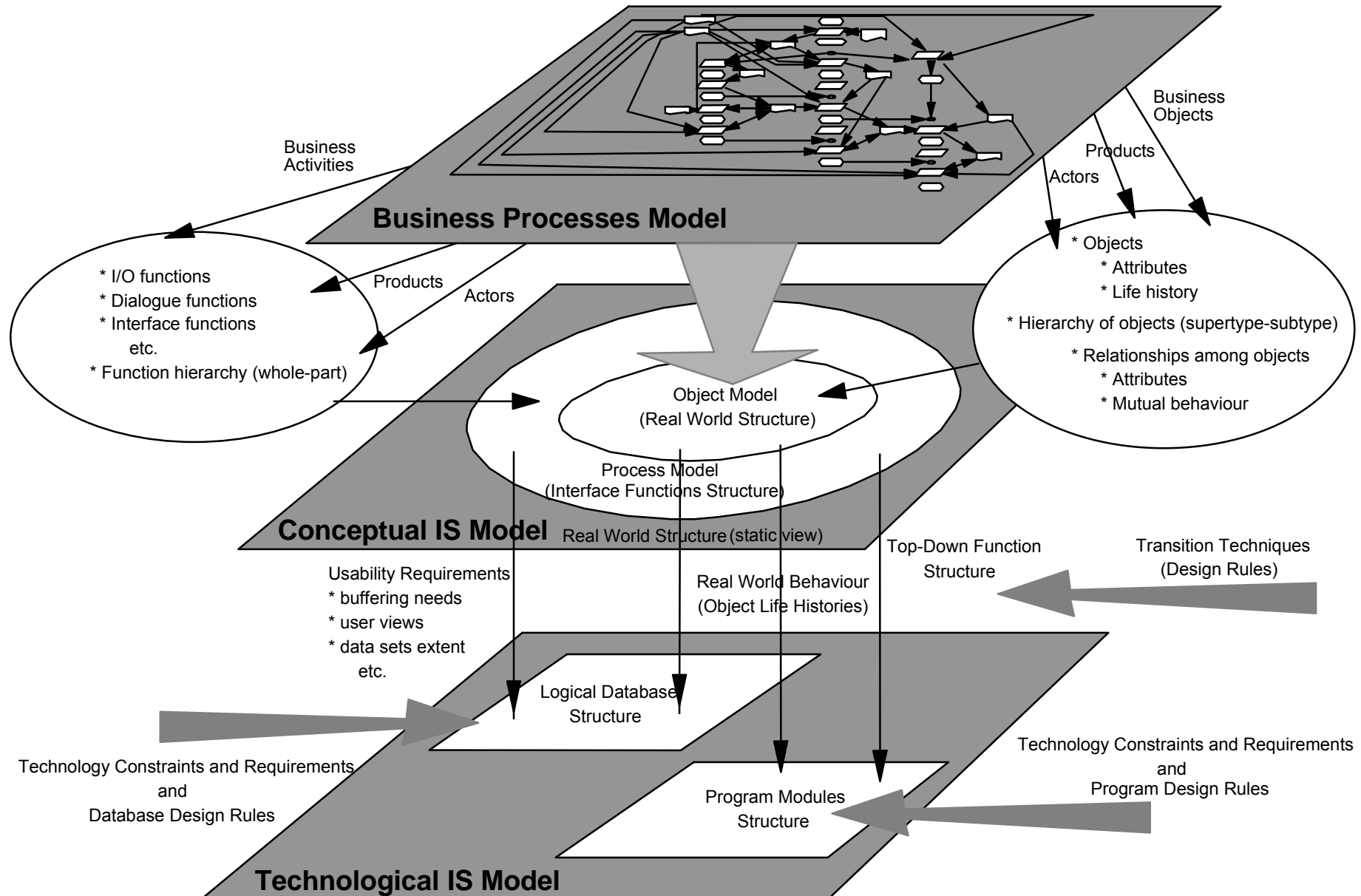
✓ all substantive facts are analysed in detail using hierarchical abstractions

- **whole - part** (process - subprocess)
- **supertype- subtype** (class hierarchy of objects)

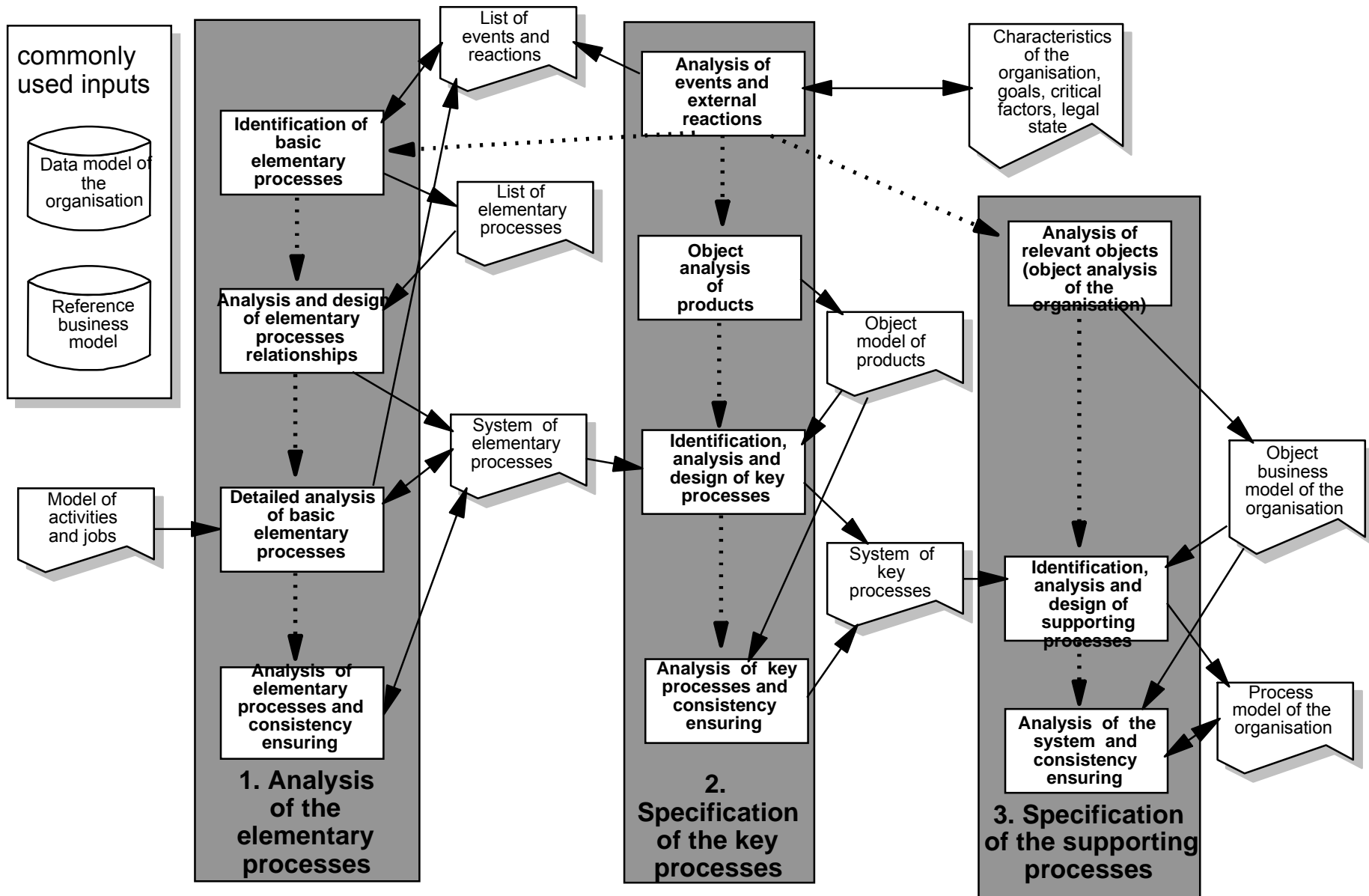
Three Architectures of Information System in the process of its development



BPA As the Starting Point for the ISD



Process of the BPA



Conclusions

Conceptual Business Processes Model

✓ the **link** between

- internal attributes of the IS and
- the substance of the business

✓ model of the processes which are **necessary for achieving** the business goals of the organisation and thus:

- are to be implemented as the workflow
- are to be supported by the information system

✓ is **not influenced** by the information technology aspects

✓ works as the **common basis** for

- IS development together with
- workflow implementation and
- business processes reengineering

Concept of IS Development

✓ reduced just to the activities which are immediately linked with information technology support of business

Conclusions

The methodology for analysing business processes based on the above discussed facts and principles is **the first step to the necessary detachment of the business processes modelling activities from the ISD activities.**

In this process the **ISD methodologies** work as very valuable **source of the matured and exact methods for process analysis** which are apparently missing in the area of management theory.