

A REVIEW OF APPROACHES IN MODELING ADAPTIVE BUSINESS PROCESSES



*SAINT PETERSBURG STATE UNIVERSITY OF
ENGINEERING AND ECONOMICS*

D.T.S., PROF. IRINA BRUSAKOVA

MARIA KOSSUKHINA

Introduction



- about business processes;
- about adaptation;
- 4 approaches.

What does business process mean?



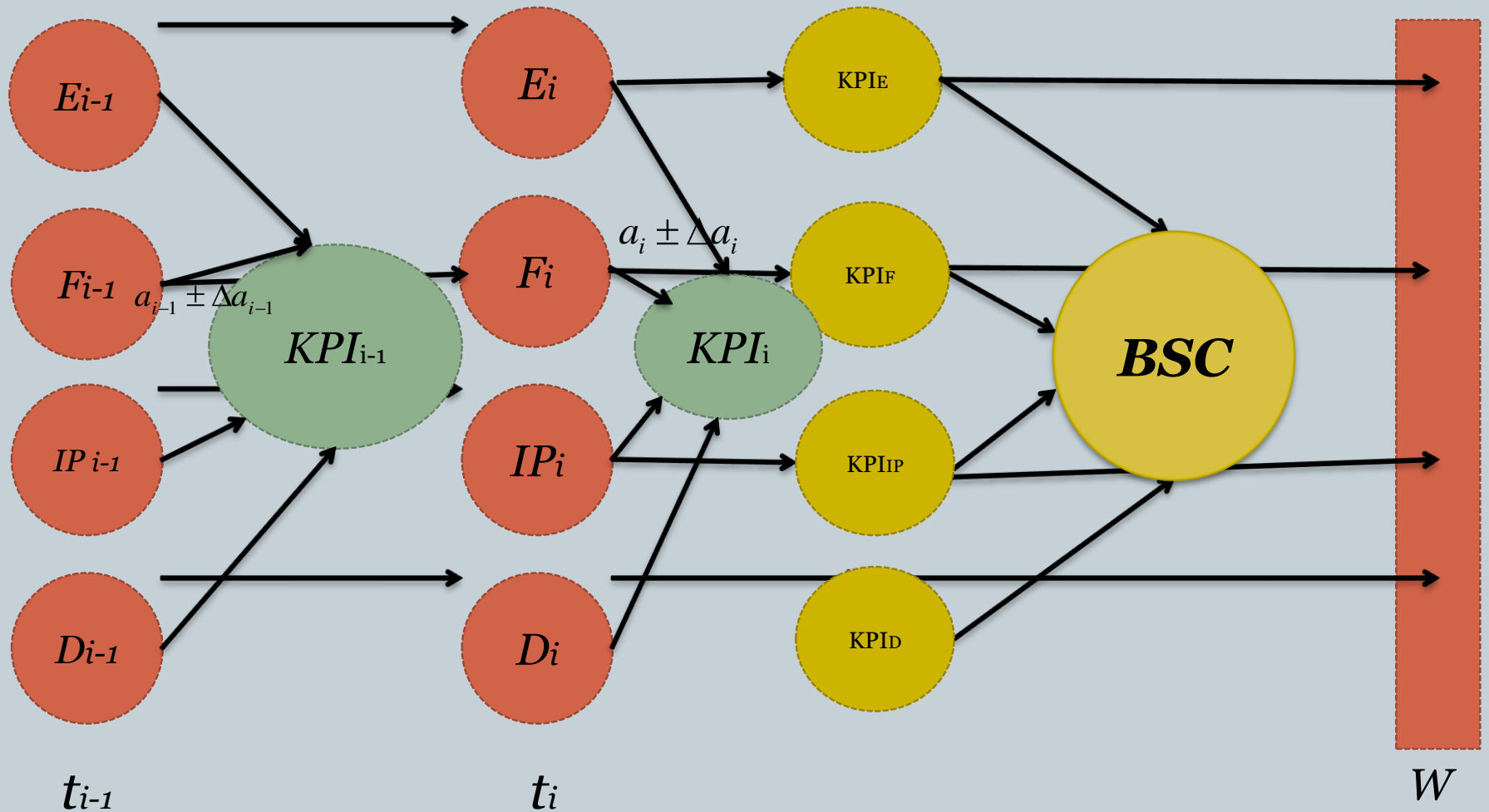
- A business process is an activity or set of activities that will accomplish a specific organizational goal;
- A business process is a collection of related, structured activities or tasks that produce a specific service or product (serve a particular goal) for a particular customer or customers

What does adaptive mean?



- It refers to internal changes caused by outside conditions that become permanent and make the entity more fitting to those new conditions.
- Those changes are performed by means of the entity itself and not by some external force.
- Adaptive business process means that real-time knowledge from the last process execution can influence the execution of the next.

KPI monitoring model



Main tasks



- Choosing a method for business process mapping and analysis;
- Choosing a notation/tool for drawing maps of our processes.

Different approaches to representing process dynamics



- Functionally-focused approach ;
- Agent-related approach;
- State-oriented approach ;
- Activity focused approach .

Functionally-focused approach



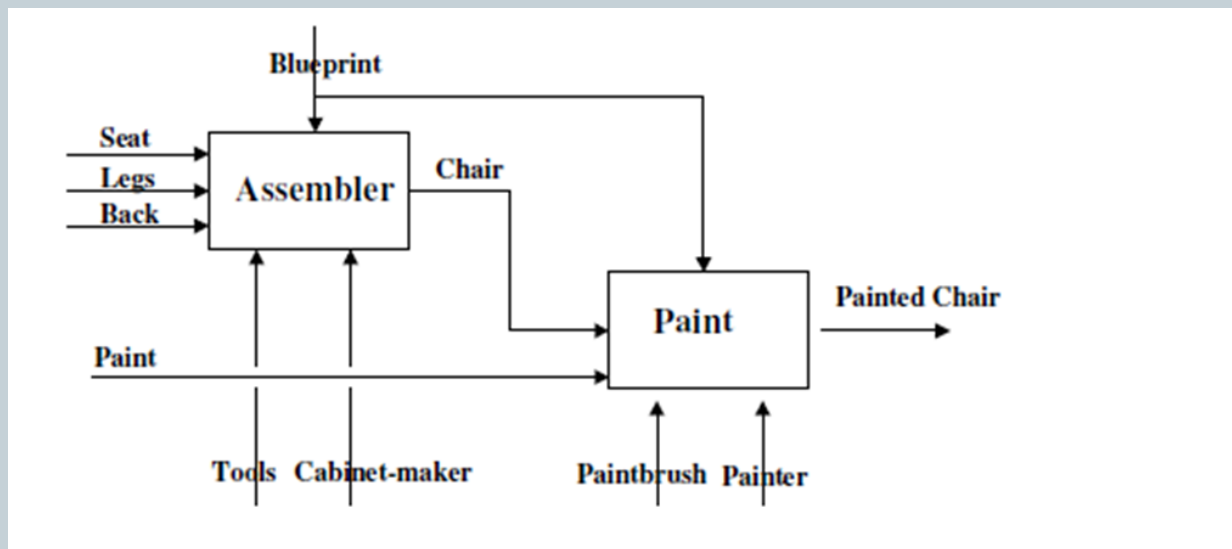
- The focus is on passive participants that are being produced, changed, or consumed by the activities;
- The most common approach to represent this kind of flow is IDEF.

Functionally-focused approach



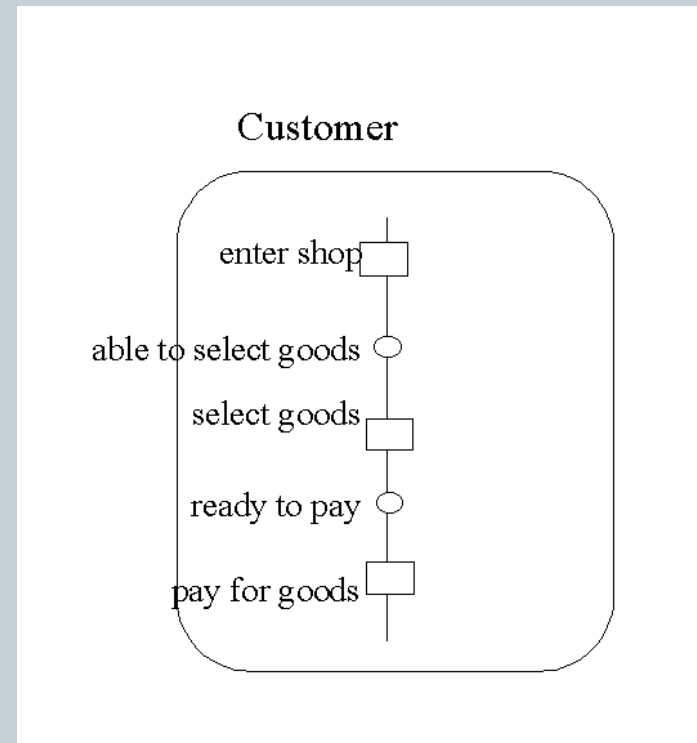
This flow can be represented as a diagram (graph), where activities serve as nodes ;

Such a diagram does not reflect the order of activities directly, it reflects the causal order, and i.e. the results of one activity are used by another activity



Agent-related approach

- The focus is on the order in which agents get and perform their part of work;
- The typical notation to represent this kind of flow is Role-Activity Diagrams –RAD and collaboration diagrams of UML.



State-oriented approach

- Each activity produces changes in the part of the real world that embraces the given process instance;
- The focus of the state flow view is on changes produced in the part of the world that embraces the given process instance.

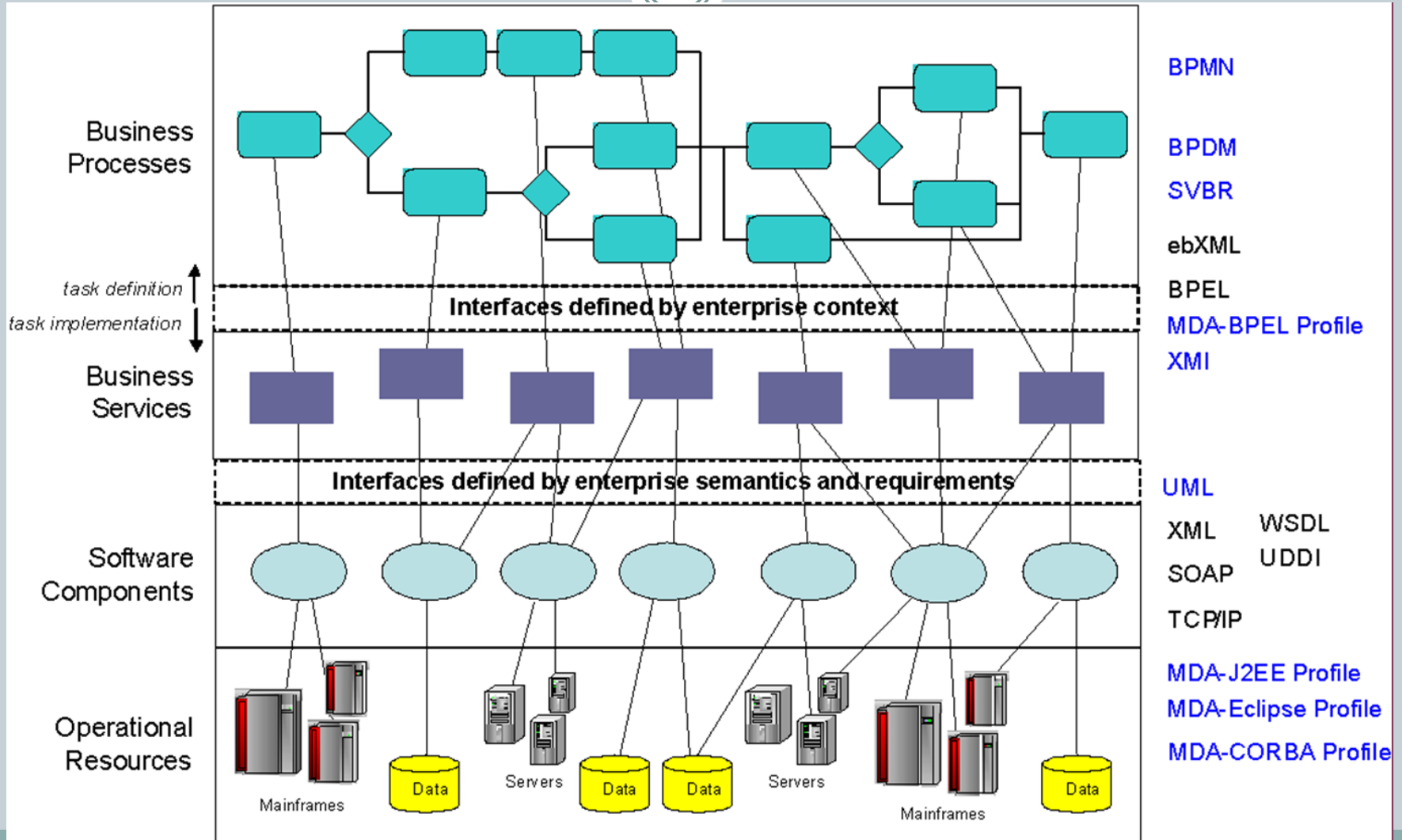


Activity focused approach



- The focus is on the order of activities in time;
- This flow can be represented as a diagram (graph) where arrows represent activities;
- Typical notations for representing this kind of flow are Business process diagram of BPMN, Activity Diagrams of UML, and Petri Nets.

BPMN Metamodel



Witch approach to choose?



Considering the specificity of adaptive business processes the best approach in modeling adaptive business process is the combination of activity focused approach and state-oriented approach because there is a need to ensure that all activities are completed in the right order, to ensure who does the operations and what passive participants are changed during them. It is important to focus on position reached in relation to the goal after execution of activities.