

Collaboration and Decision Making





Collaboration

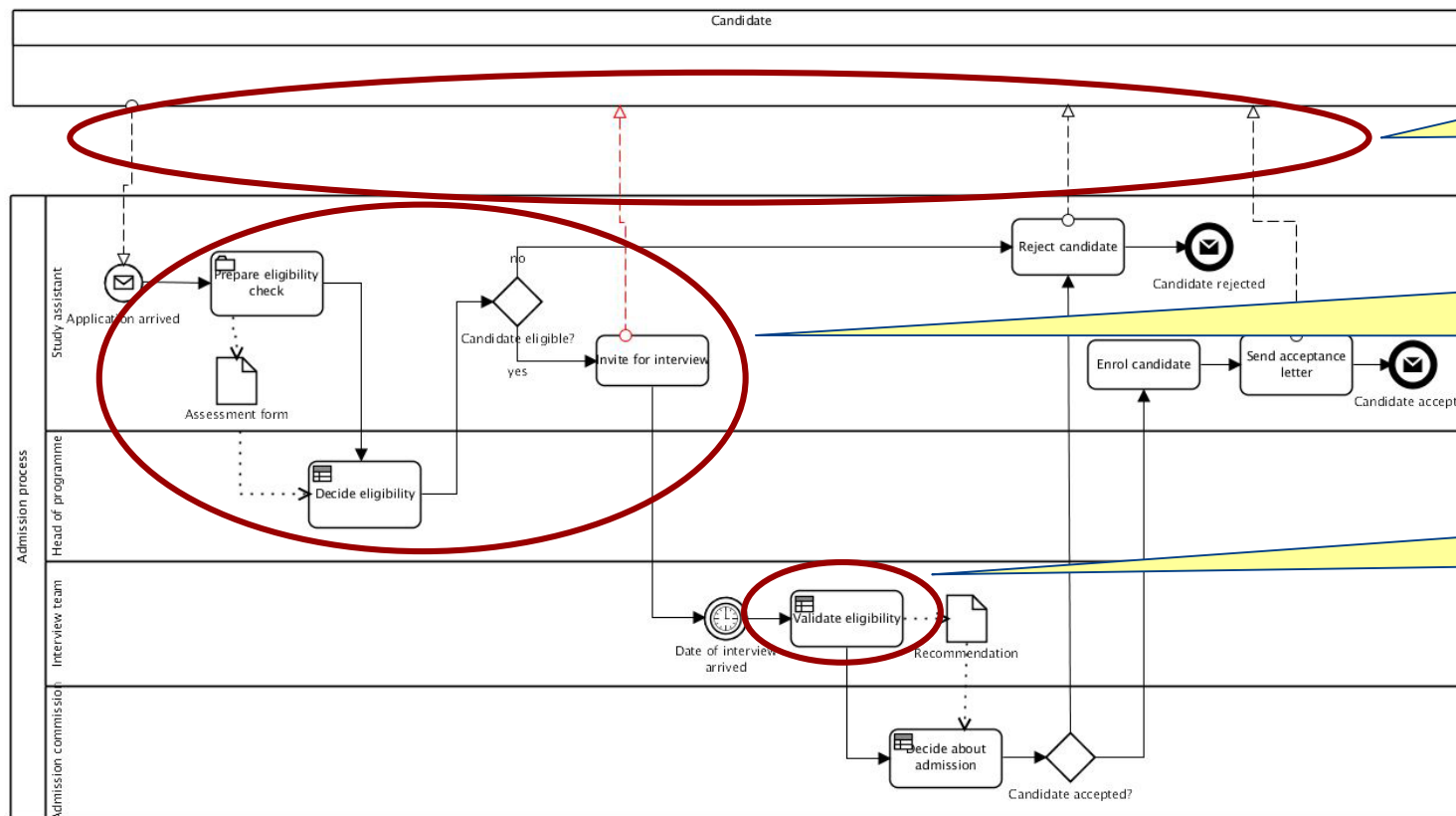
Collaborative Workflow

A business process ...

- ... is a collection of tasks to achieve a desired outcome
- ... typically involves collaboration between different people
- ... relies on communication and coordination

Collaboration in a Process Model

- Process model determines tasks of participants (process logic)
- Several participants can be involved in a single task
- Interaction with external partners



collaboration with external partners

collaboration determined by process logic

teamwork in a task

Characteristics of collaboration

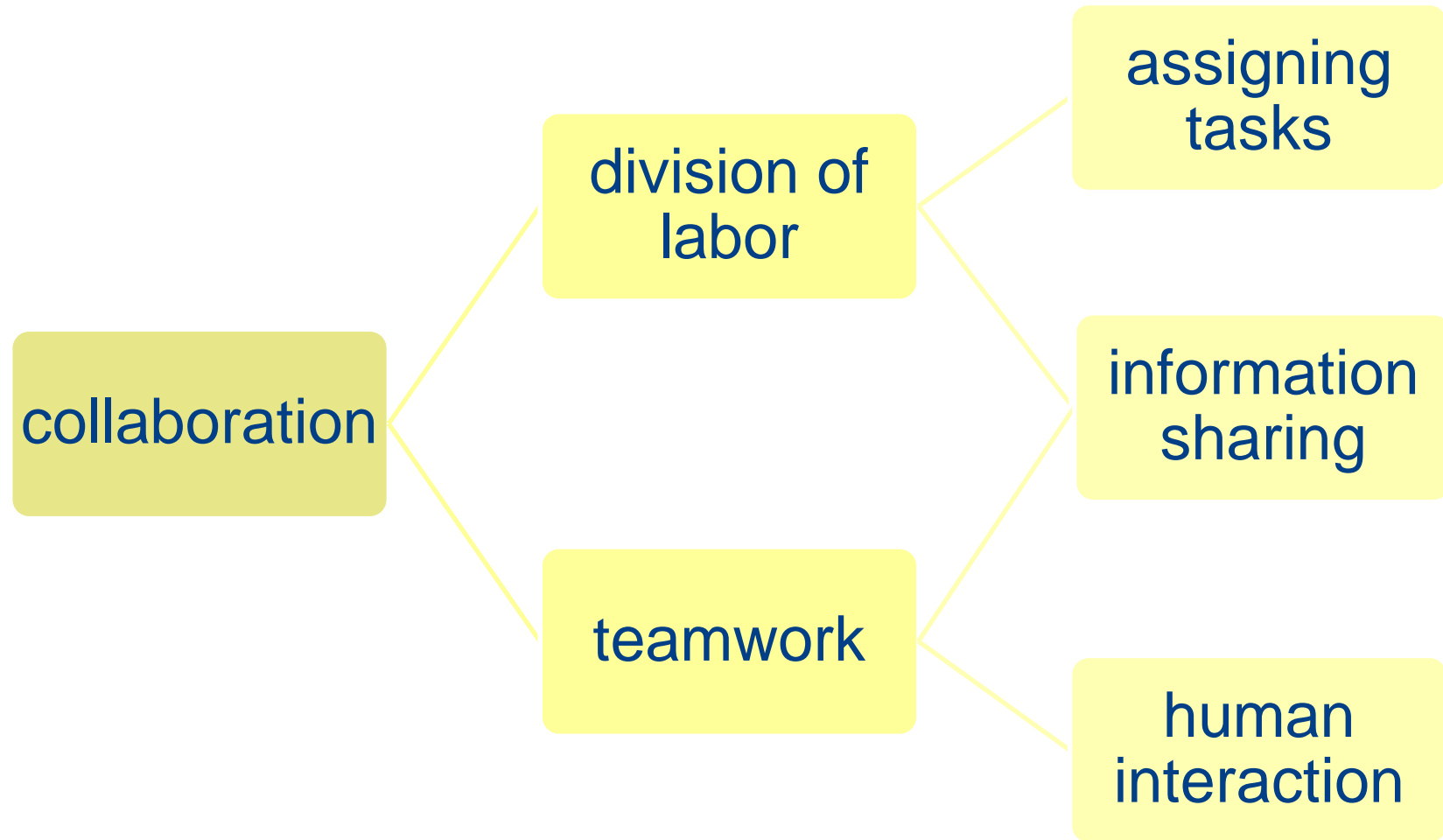
- Adhoc and planned tasks
- Transfer of information between tasks
- Shared information between participants (people or systems)
- Collaboration within organisation and across organizational boundaries
- Synchronous or asynchronous collaboration

Synchronous vs Asynchronous Collaboration

- Synchronous system
 - ◆ operations are coordinated by a central system
- Asynchronous system
 - ◆ start of work does not depend on occurrence of events (time, signal, information)
- Synchronous collaboration
 - ◆ tasks are assigned to participants by a central system
- Asynchronous collaboration:
 - ◆ participants have freedom to organize their contributions
 - ◆ interaction by participants to coordinate work



Types of Collaboration in Business Processes

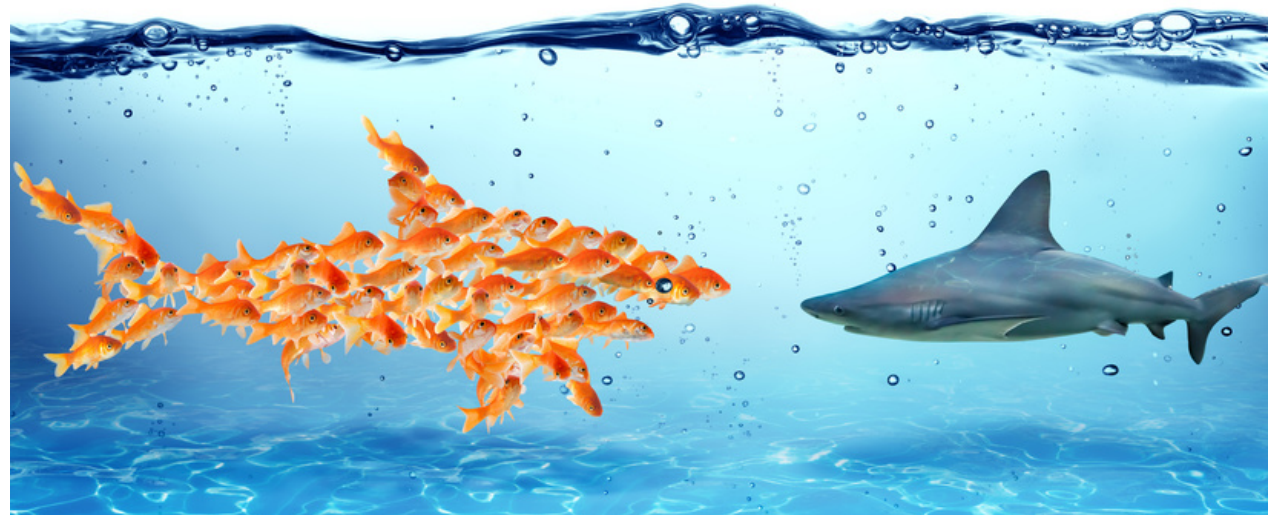


Division of Labor

- Participants take over individual tasks
 - ◆ Planned: process model
 - ◆ Ad hoc: task management
- Coordination/synchronization can be done via
 - ◆ events (e.g. task X is finished, time event, message arrived, ...)
 - ◆ shared content (e.g. amount > Y, ...)

Teamwork

- People collaboratively solve a task
- Coordination is done asynchronously via
 - ◆ human interaction
 - ◆ shared content
- Examples
 - ◆ writing a report
 - ◆ workshop
 - ◆ meeting



Cases and Tasks are based on Information

- There are a number of services that can be used to support collaboration
- Examples:

Workflow management
(synchronous)



camunda BPM platform

Task management (asynchronous)



Outlook Tasks



Todoist



Toodledo



Trello



Google Tasks

Information sharing (asynchronous)



Oracle Database



File System



Excel



Dropbox



Office 365 Users

Communication (asynchronous)



Mail



GoToMeeting

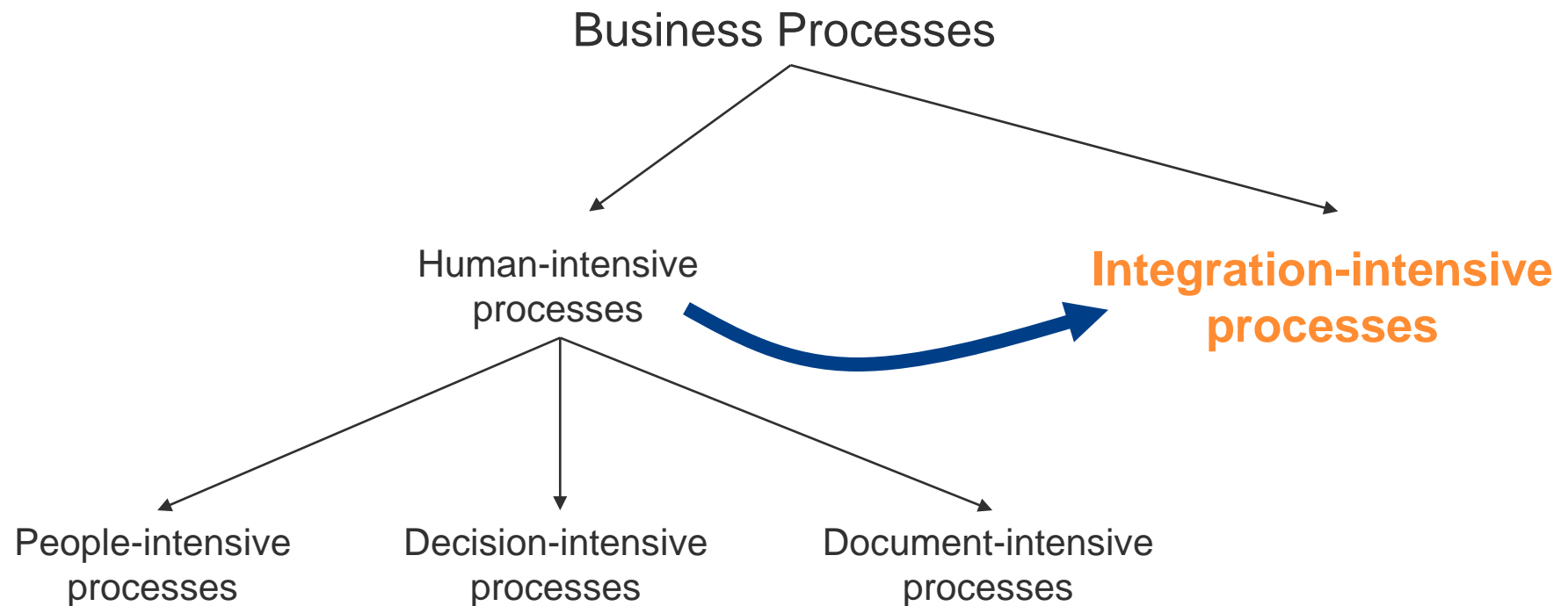


Slack



Decision Making

Digitalization of Business Processes



Objective: Avoid human intervention!

Source: Forrester



Decision-intensive processes

- These complex processes involve
 - ◆ gathering information
 - ◆ automatic and manual scoring
 - ◆ mission-critical decision-making.
- Decision-intensive processes can be human-intensive and integration-intensive – depending on the format of data
 - ◆ human-intensive: documents
 - ◆ integration-intensive: structured data

Source: The Forrester Wave™: Human-Centric BPM for Microsoft Platforms, Q4 2007



How to digitize Processes and Decision

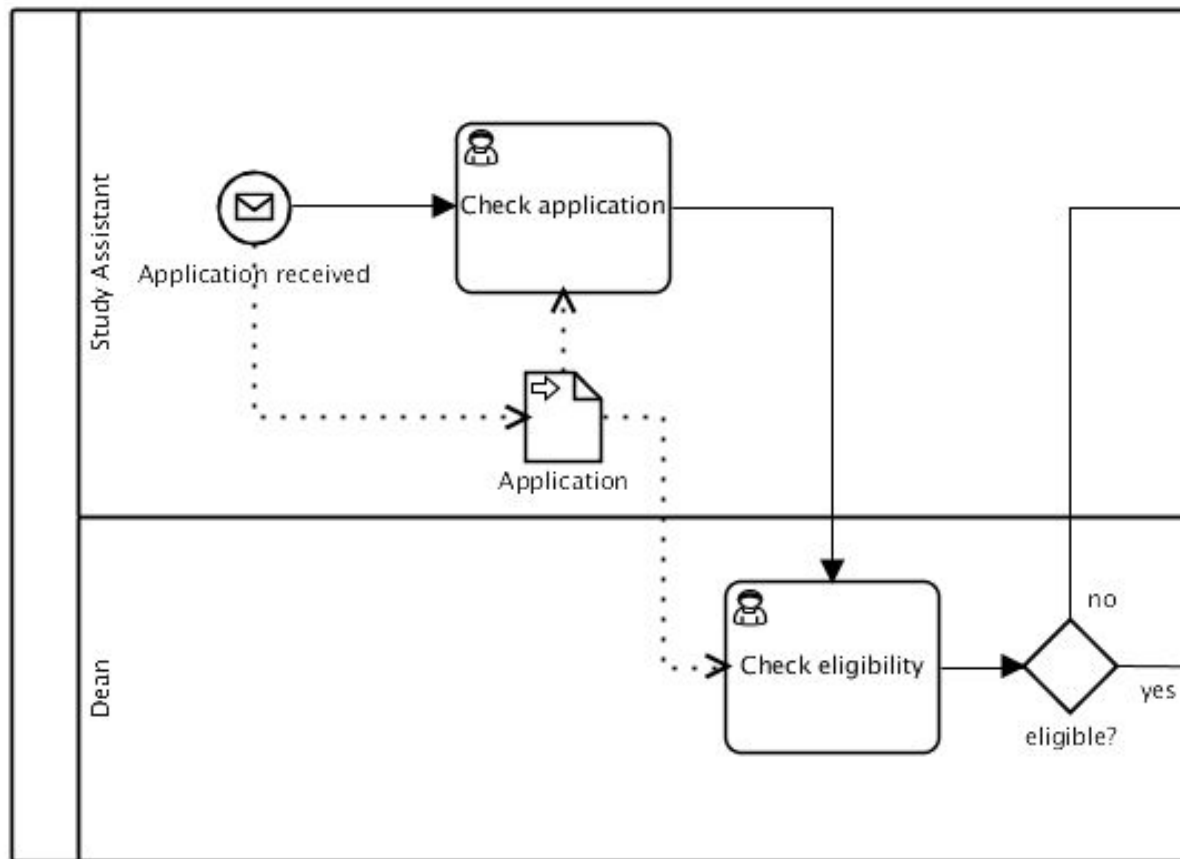
Degree of Digitalization

- **Human interpretation of documents**
 - ◆ Humans extract and interpret data
 - ◆ Decision task uses this data for automated decision
- **Digitalization of Information from document**
 - ◆ Scanning and information extraction
 - ◆ Specialized tools needed for automation
- **Request/create information in structured format**
 - ◆ User interface with forms using predefined values and numbers (instead of text)
 - ◆ Access to information systems with structured data



Example: Information in Documents

Human-intensive process



Automation of Decision

- Uniform Decision
- Simple Replication
- Data Analysis for Decision Management
- No training



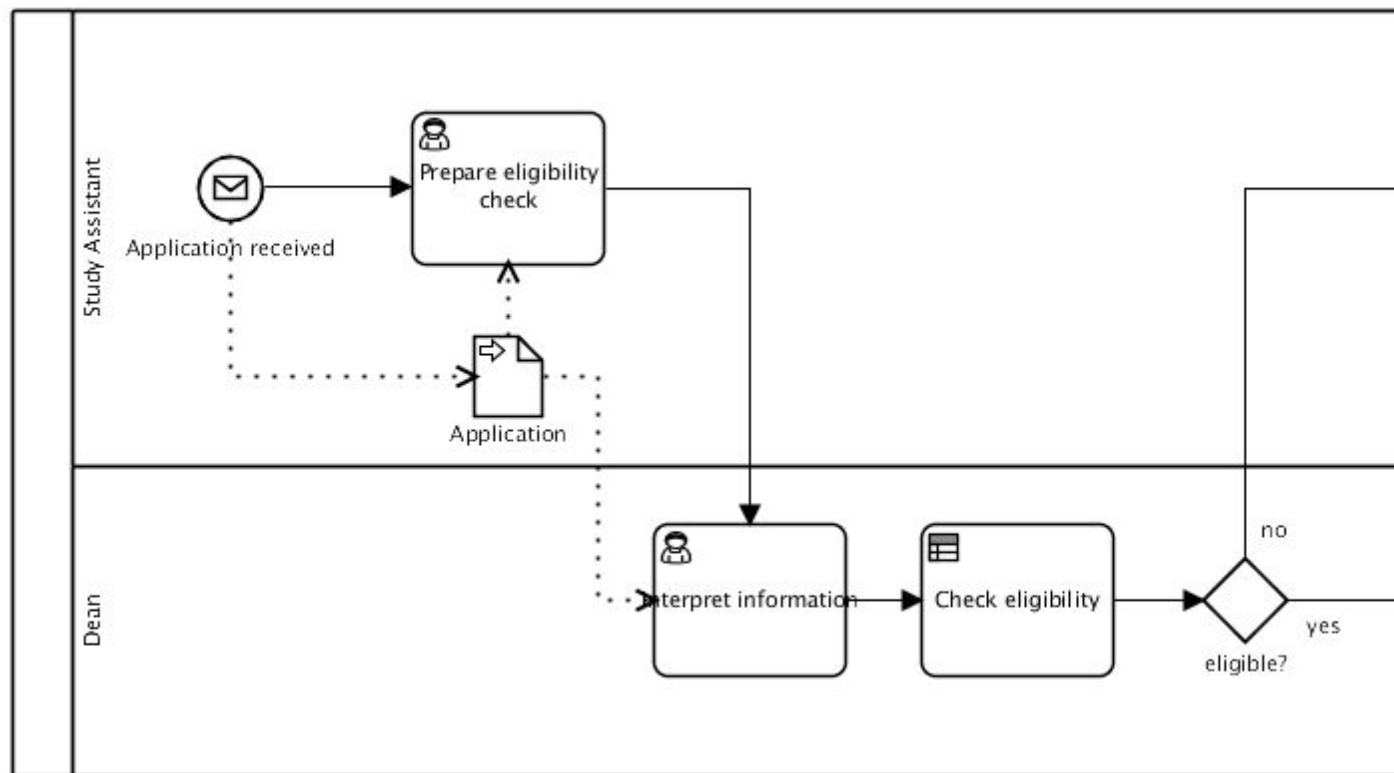
Decision Tasks

- Automated decisions require structured data
- Example: Admission Process
 - ◆ Bachelor Degree
 - ◆ Grade
 - ◆ Years of Professional Experience
- Can be implemented as DMN decision tables



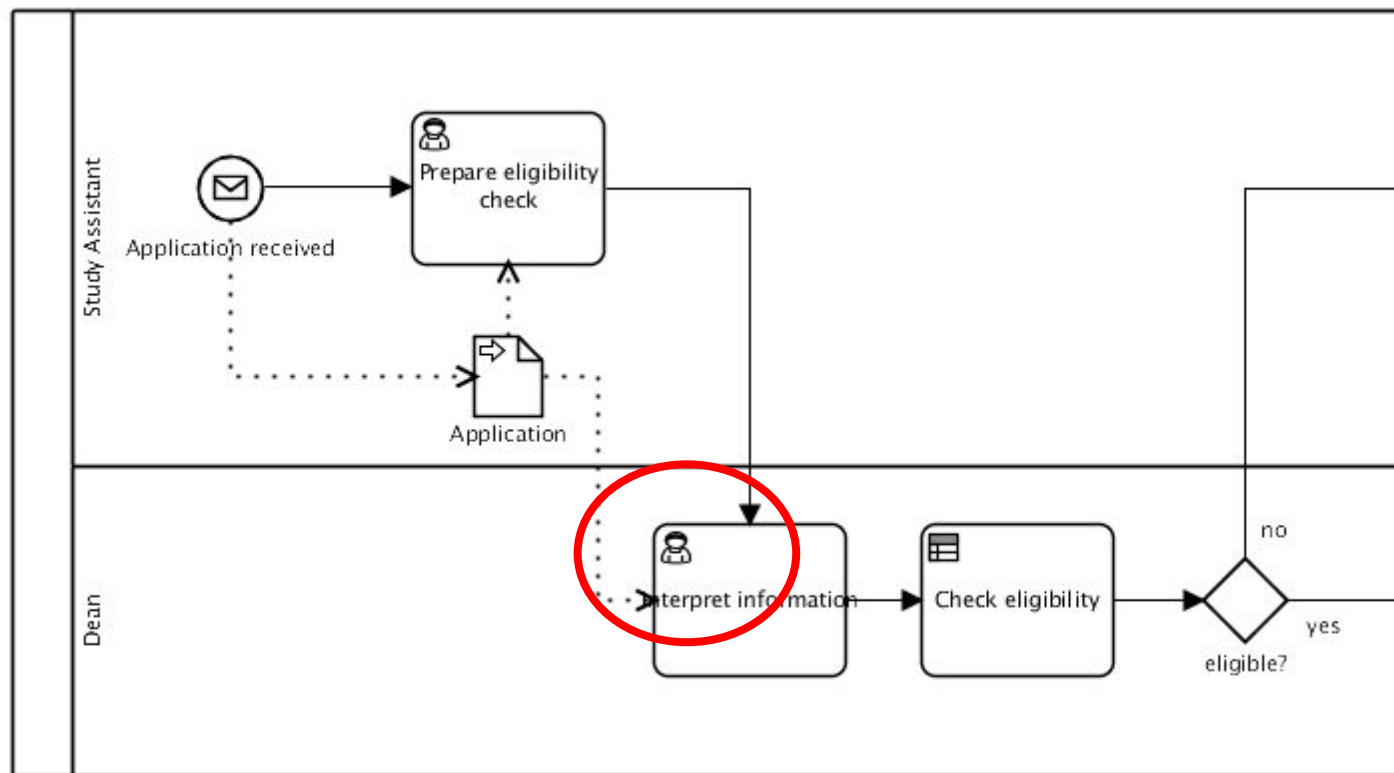
Example: Information Extraction from Documents

- Human extraction of relevant document content
- Automated decision making possible



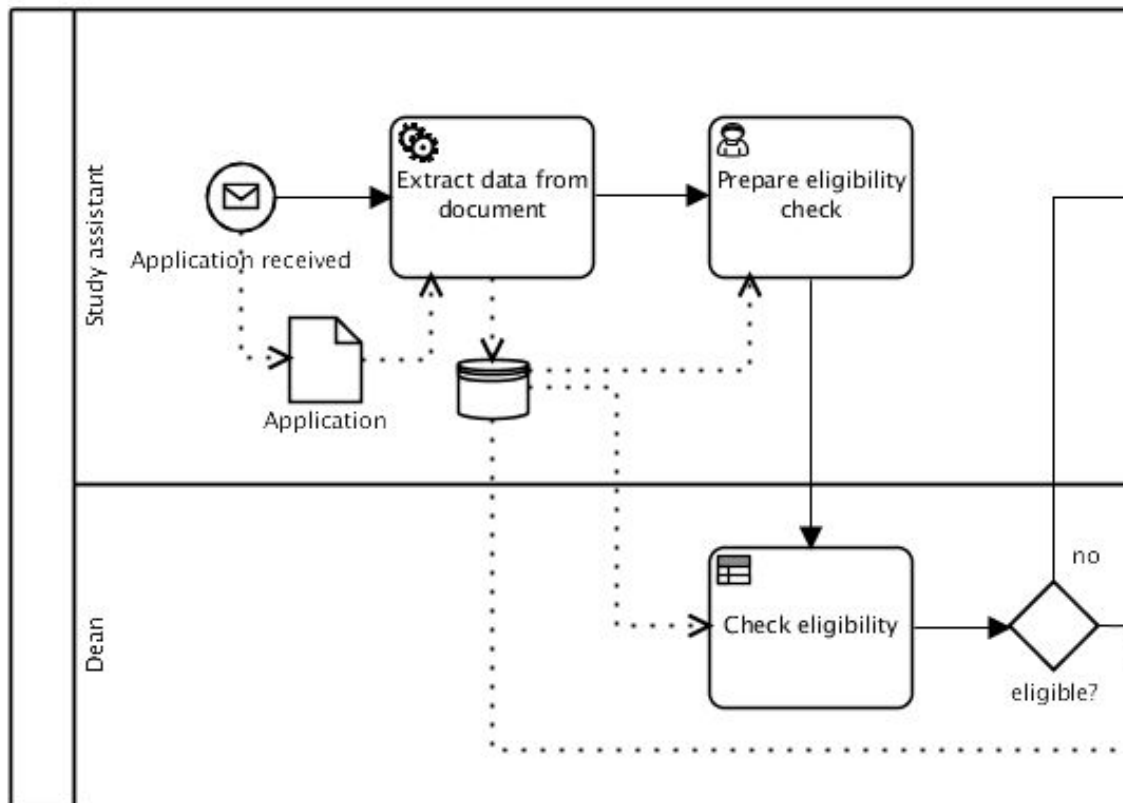
Example: Automated Information Extraction

- Automatic extraction of document content, e.g using keyword recognition or specific software
- Automated decision making possible



Example: Automated Information Extraction

- Digitalization of data at beginning of process
- Process works with structured digital information
- Automated decision-making possible



Integration intensive processes

- These business processes involve
 - ◆ high volume of transactions
 - ◆ need to integrate with other systems
 - ◆ high degree of straight-through processing
 - ◆ limited human interaction
- Action is driven by machine-interpretable data
 - ◆ data extracted from documents
 - ◆ electronic forms (web, apps)
 - ◆ database systems

The image shows a web form with two main sections: 'Personal Information' and 'Contact Information'. The 'Personal Information' section contains two text input fields for 'First Name' and 'Last Name'. The 'Contact Information' section contains three text input fields for 'Address', 'City', and 'Country'. Below the 'Country' field is a dropdown menu with the text '-- Select Country --'. At the bottom, there are two more input fields: 'Post Code' and 'Country', with 'United Kingdom' selected in the second one.

| First Name | Last Name | Address | City | Age |
|------------|-----------|---------------------|----------|-----|
| Mickey | Mouse | 123 Fantasy Way | Anaheim | 73 |
| Bat | Man | 321 Cavern Ave | Gotham | 54 |
| Wonder | Woman | 987 Truth Way | Paradise | 39 |
| Donald | Duck | 555 Quack Street | Mallard | 65 |
| Bugs | Bunny | 567 Carrot Street | Rascal | 58 |
| Wiley | Coyote | 999 Acme Way | Canyon | 61 |
| Cat | Woman | 234 Purrfect Street | Hairball | 32 |
| Tweety | Bird | 543 | Itottaw | 28 |

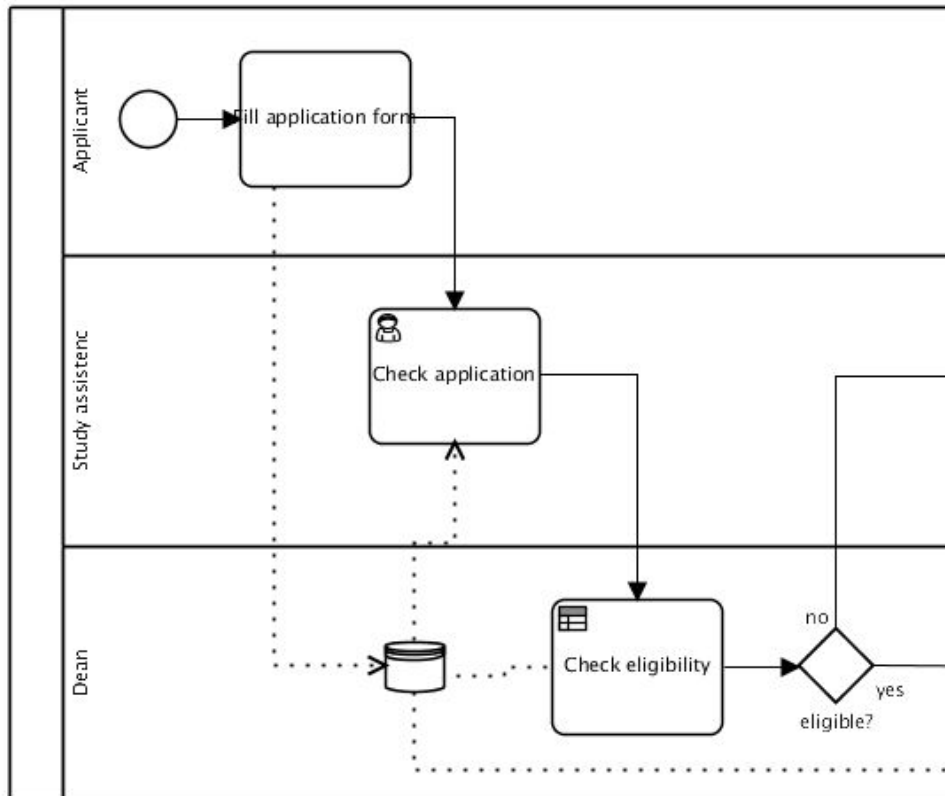
Source: The Forrester Wave™: Human-Centric BPM for Microsoft Platforms, Q4 2007



Example: Process works with structured Data

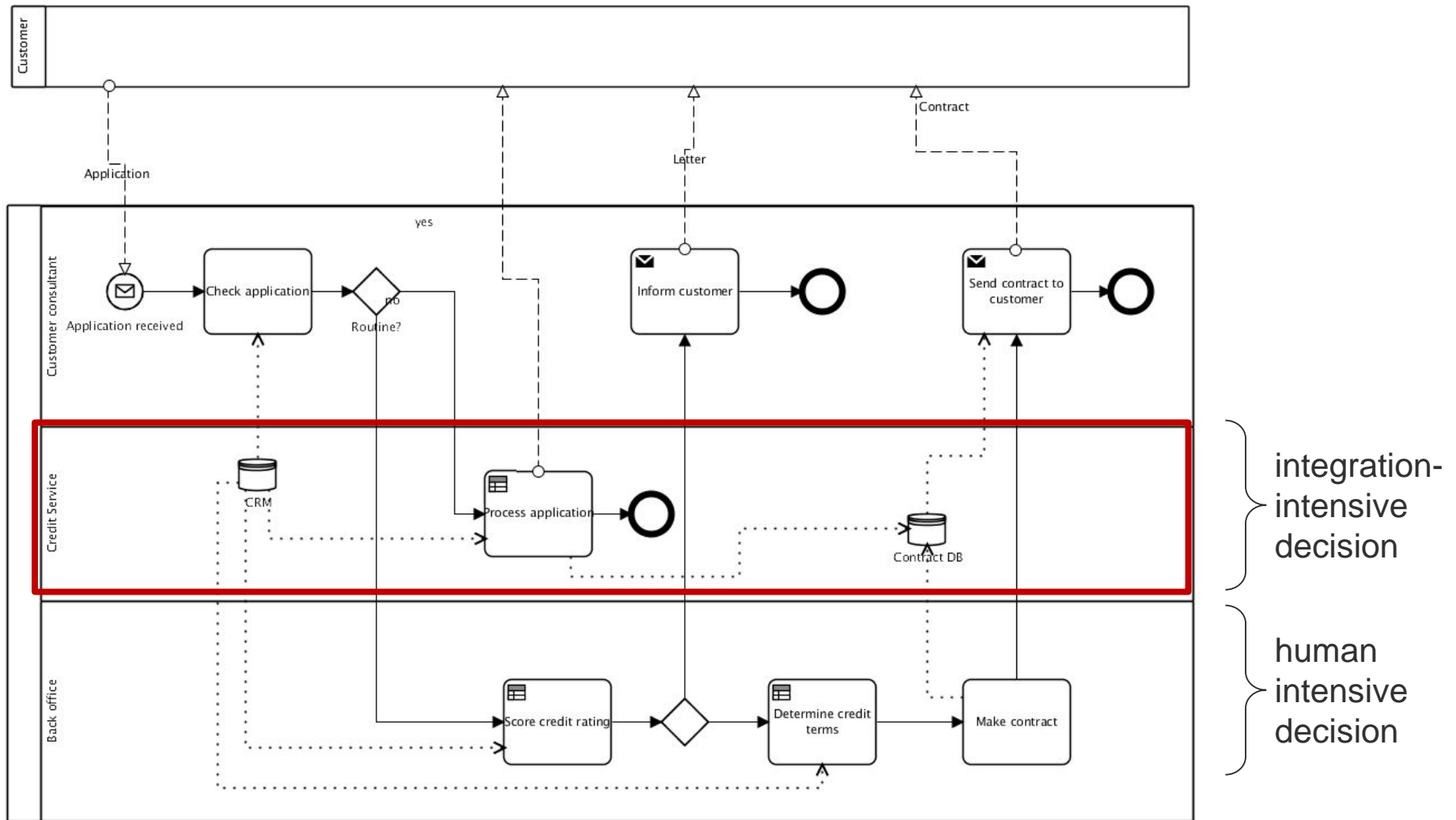
Fully digital process

- Data submitted with a form
- Automated decision making possible

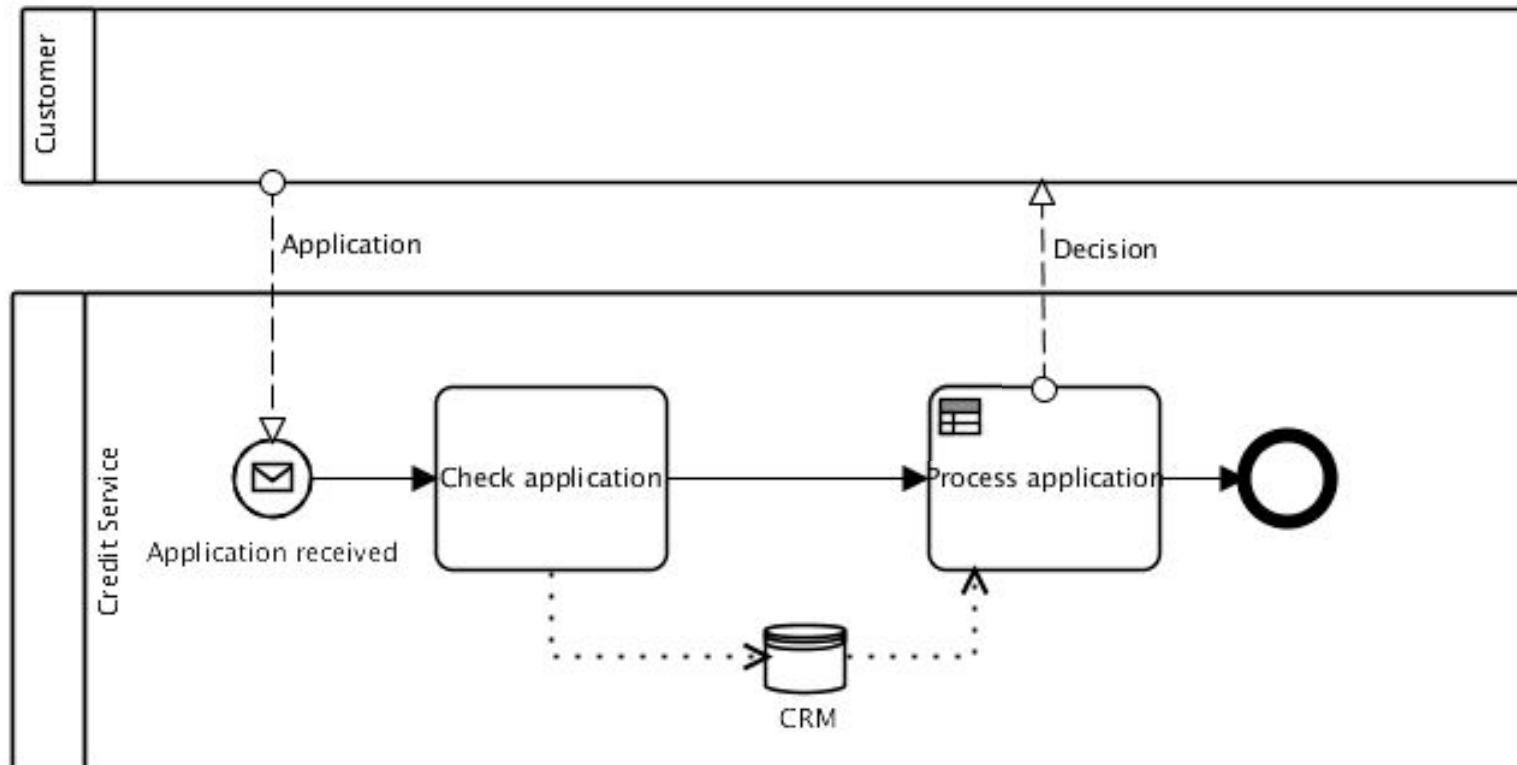


(There might be documents, which cannot be replaced, e.g. a certificate or reference letter, and which still need to be interpreted by humans)

Example: Automated Service for Routine Tasks



Example: Fully Automated Process



Automated Decision Making

- Input for decisions should be basic data, e.g.
 - ◆ Grade (e.g. A,B,C,D,E)
 - ◆ Years of professional experience
 - ◆ Degree
- NOT on interpreted or aggregated data, e.g.
 - ◆ For grade (good, not good)

| U | Letter grade | Good grade |
|---|------------------------------|----------------|
| | <i>Text</i> A, B, C, D, E | <i>Boolean</i> |
| 1 | "A", "B" | true |
| 2 | "C", "D", "E" | false |

| A | Bachelor Degree.Bachelor Degree | Good grade.Good grade | Eligibility |
|---|---------------------------------|-----------------------|----------------|
| | <i>Boolean</i> | <i>Boolean</i> | <i>Boolean</i> |
| 1 | true | true | true |
| 2 | | | false |
| 3 | false | | false |
| 4 | | | true |
| 5 | | false | false |