# Introduction to Enterprise Architecture Management

# Fundamental Concepts and Fields of Activity

**Dr. Ann Schirin  Mirsanaye**          **WS 2024/2025**

TECHNISCHE
UNIVERSITÄT
DARMSTADT

**Focus of this session:**

**Cognitive Attention: How Enterprise Architects Master the Pitfalls of our Perception**

# An overview of this session:

**1** **Bias – The Pitfalls of Our Perception**

**2** Thinking Fast – Thinking Slow

**3** Narrative Fallacy

# BIAS – Psychological Background

## Why do biases exist?

- **Cognitive Efficiency**

- **Emotional Influence**

- **Social Influence**

- **Memory & Experience**

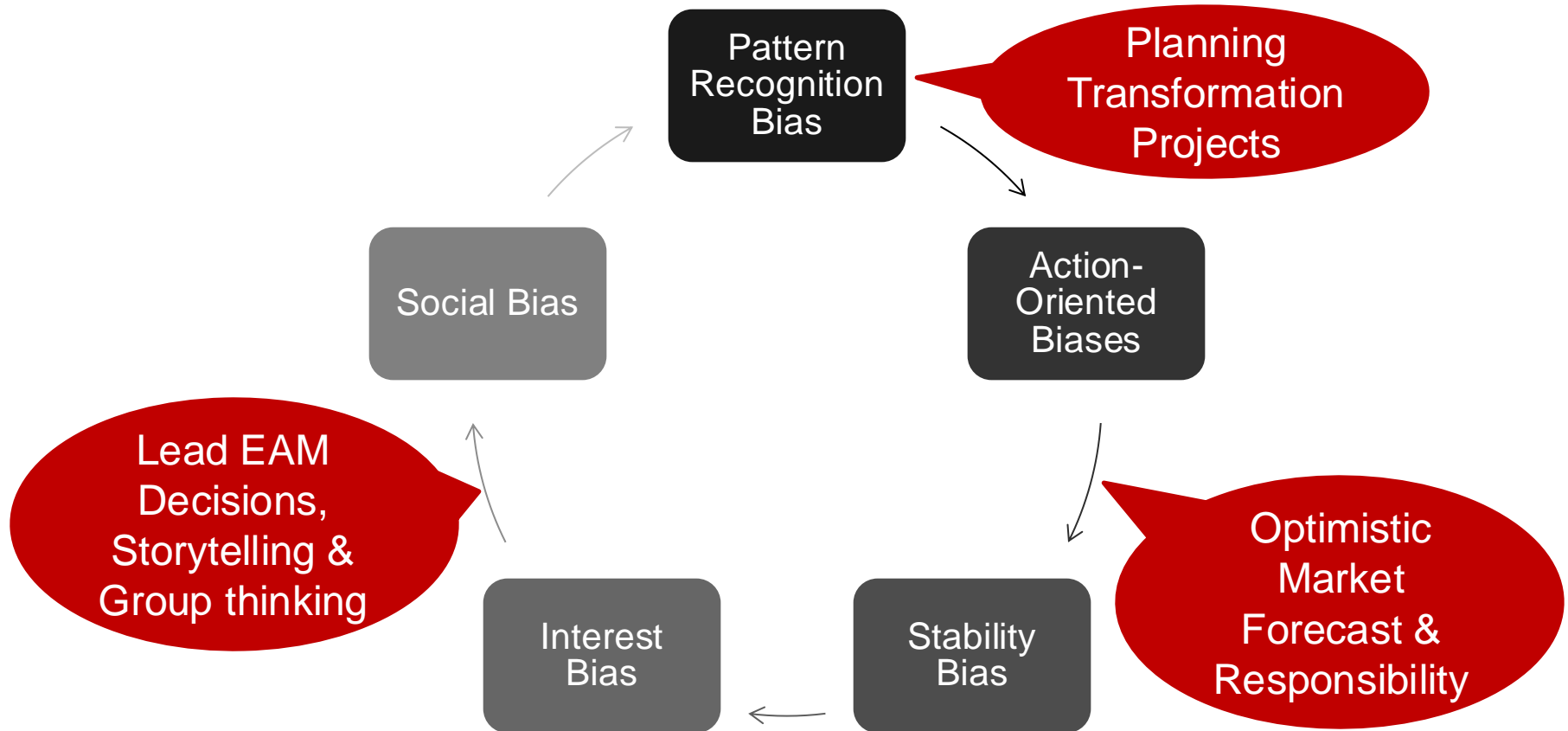Primal Abilities of Humans → Needs

## What types of biases exist?

– **Cognitive biases** *(Thinking Errors): Confirmation bias, availability heuristic, anchoring bias*

– **Emotional biases** *(Affect-based Errors): Loss aversion, endowment effect*

– **Social biases** *(Group Influence): In-group bias, halo effect*

# Five Categories of Bias *(Olivier Sibony)*



Pattern Recognition Bias

Planning Transformation Projects

Action-Oriented Biases

Social Bias

Lead EAM Decisions, Storytelling & Group thinking

Interest Bias

Stability Bias

Optimistic Market Forecast & Responsibility

# Thinking Fast – Thinking Slow *(Kahneman et al., 2011)*

| System 1 | System 2 |
|:---:|:---:|
| Fast | Slow |
| Unconscious | Conscious |
| Automatic | Effortful |
| Everyday Decisions | Complex Decisions |
| Error Prone | Reliable |

Why does this matter to EA?
- Bias Awareness
- Better Decision-Making
- Work & Innovation

# Narrative Fallacy – The Trap of Storytelling in Decision-Making

Why do we fall for „narrative fallacy"?

Our brain craves meaning and patterns, so we:

- Prefer simple, linear stories

- Ignore randomness & uncertainty

- Retroactively connect events

**Examples**:

**Business & Success Stories:**

- "Apple succeeded because Steve Jobs was a genius."

    - Reality: Many **random factors**, like market timing & luck, played a role.

**Stock Market Analysis:**

- "The market dropped today because investors were fearful."

    - Reality: The market is **influenced by countless unpredictable variables**.

EA experts/ respect experts

# Task – How the EAM concepts can be applied within a large organisation.

1. **Fast Friendshipping (5 min)**

   **For each question you have 2-minute times. 1 minute for everyone in the group.**

2. **Read the task on the next slide and try to answer the additional questions (10 min).**

3. **Discussion in plenum (10min).**

**~25 min**

# Task

Let's take decarbonization as an example. It is a cornerstone of EnBW's corporate strategy. With it, the company aims to achieve climate neutrality by 2035. The operation of data centers, the production of end devices for employees, or the operation of software (as-a-service) have significant impacts in this context. Enterprise architects can make a significant contribution to reducing the $CO_2$ emissions of the IT landscape with their architecture work. The complexity only becomes apparent when enterprise architects want to provide more than a statement about the energy consumption of individual computers or servers and deal with the following questions, for example:

- How exactly does the digital transformation of the IT landscape make EnBW's business model sustainable?

- What are the essential business capabilities that are relevant for this, and how do applications and information contribute to it?

# Take-Home Messages

- **Challenge Confirmation Bias** – Use **EAM frameworks** (e.g., TOGAF) to ensure decisions are driven by enterprise goals, not personal preferences.

- **Overcome Anchoring & Status Quo Bias** – Continuously assess **capability maps & roadmaps** to avoid stagnation and enable future-proof architectures.

- **Mitigate Social & Interest Bias** – Leverage **governance models & architecture principles** to counter groupthink and ensure objective decision-making.