



# Waste in Design Management Operations from the Viewpoint of Project Needs

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# Problem: Waste



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- Waste in project processes is hindering productivity
- Poor information flow is usual for the design processes
  - Delayed or erroneous drawings lead to poor project performance
  - Overly complex designs
- Traditional design management is often aiming to remove waste on individual design processes = sub-optimization

# Problem: Waste

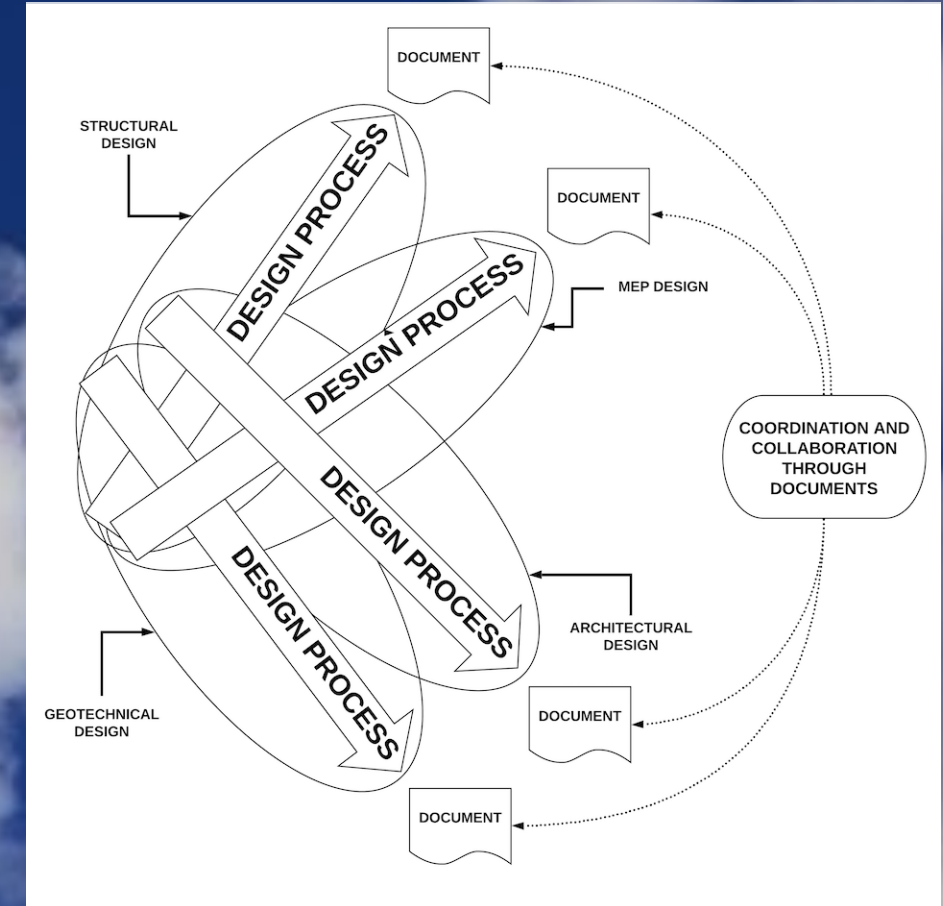


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- Traditional design management is often aiming to remove waste on individual design processes
  - Each design process has own goal
  - Aims to only create documents
  - = Sub-optimization



# Aim of the study



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- How the project participants perceive waste in design management operations, and in which ways the waste could be eliminated?
  - Project point of view

# Methods



- Constructive research
- Single-case study (82 apartment residential building)
- Semi-structured interviews (11 professionals from case project)
- Comparing results to previous research, formulation of conceptual solution



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# Results: Main themes

- Technical design process
- Social design process
- Team and project processes

# Technical design process



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- Issues related to design management process waste
  - Details without proper prerequisites (29)
  - Point of inspection too late (26)
  - Information flow (21)
  - Too detailed design too early (5)
  - File naming convention (2)



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# Social design process

- Issues related to design management process waste
  - Trust (24)
  - Communication (24)
  - Unnecessary meetings (2)



# Team and project processes



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- Issues related to design management process waste
  - Responsible party (30)
  - Individual goal vs. project goal (12)
  - Building permit officials (8)
  - Resources (3)

# Results: summary



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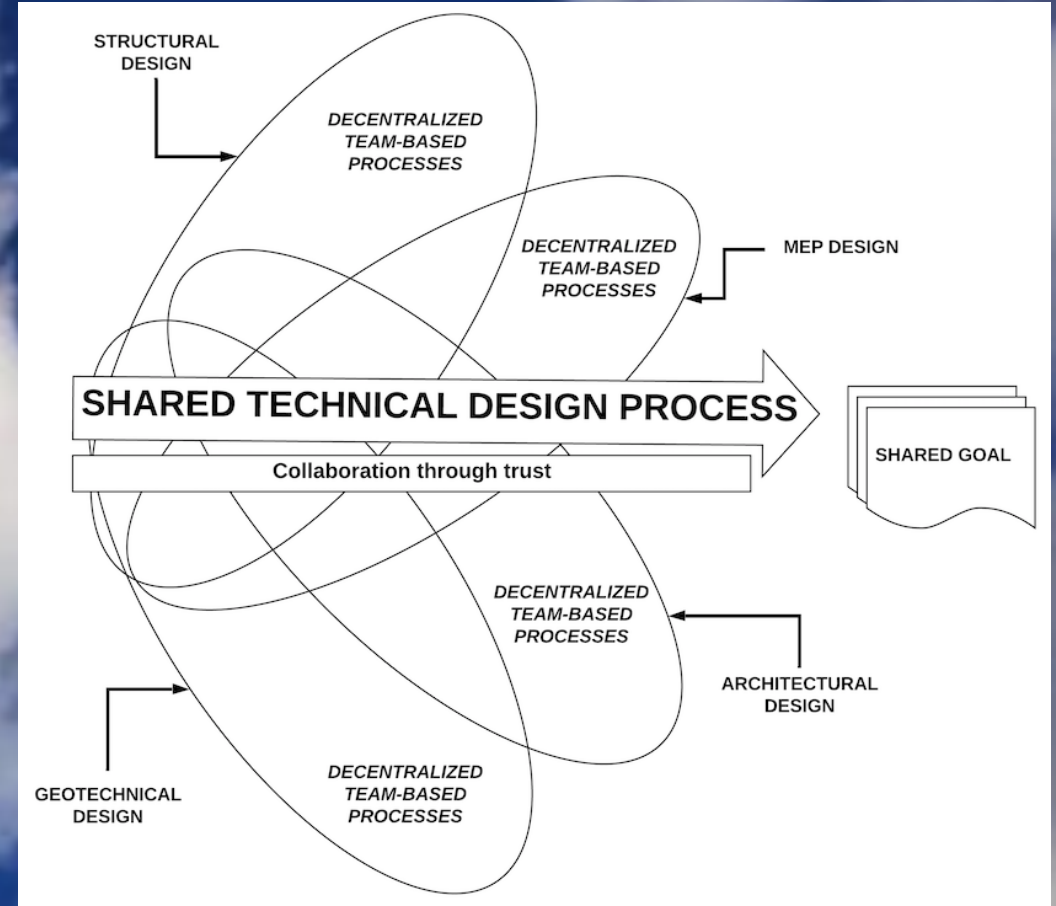
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- Problems are connected to unstructured behaviour for managing:
  - maturity of the designs
  - timing
  - flow of the design information
- Need for better communication was noted
- Designers experienced absence of control over own work
- Project had several unaligned goals

# Holistically optimized design process

1. Shared technical process utilizing Level of Detail (LOD)
2. Decentralized team-based process
3. Social collaboration initiated through trust



# Holistically optimized design process

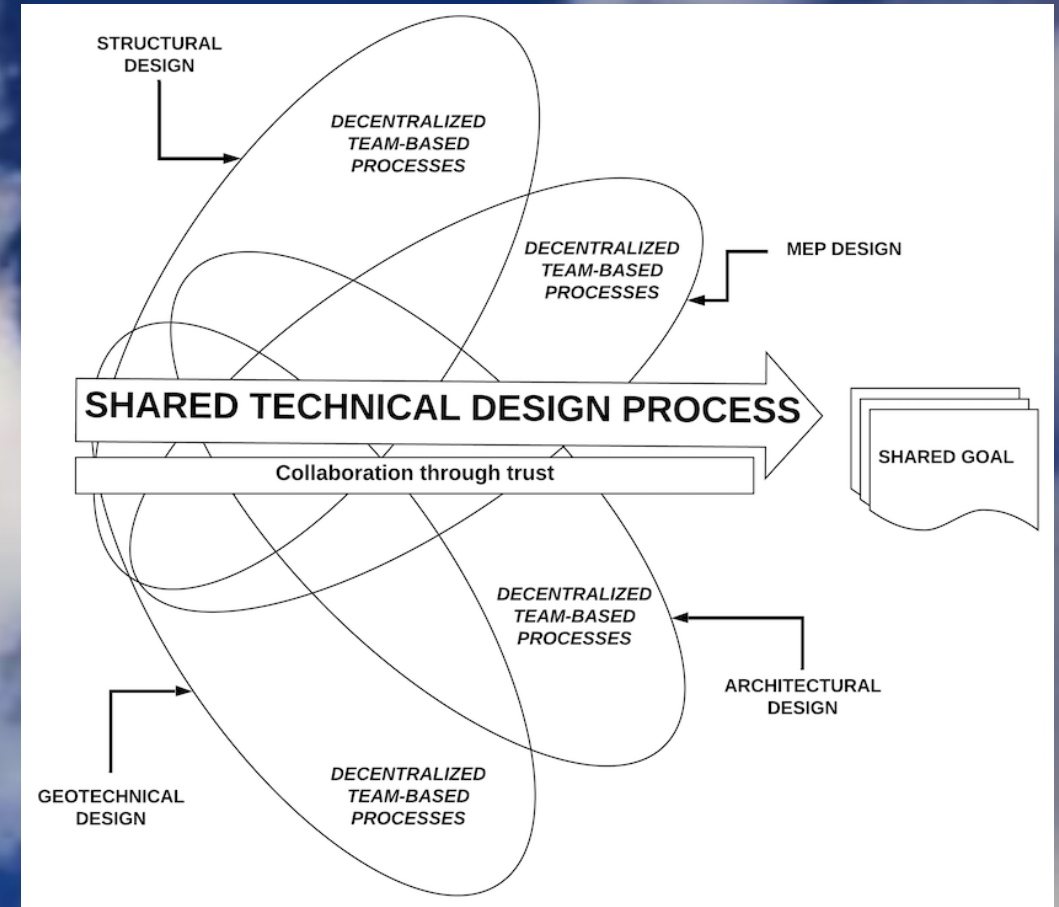
- Covers both social and technical aspects of design operations
- Takes advantage of design information LOD, supports pull
- Shared goal instead of individual goals
- Future research on process implementation and validation



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Thank You