Module based design

Organisational modularisation within shipbuilding

Researcher Sigmund Aslesen
Fafo Institute for Applied Social Sciences

EGLC-3, 22.-23th of May
Delft, Netherlands

Fafo

Shipbuilding - Module Based Design

Fafo

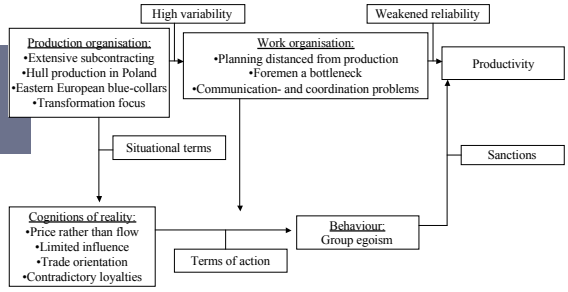
Module based design within shipbuilding

- The main idea:
  - To split up the design in different modules or parts of the ship
  - To standardise design and technical solutions within each module
  - To make for integrated solutions within and between modules
- The main goals:
  - Earlier start of the building process, earlier fitting out of equipment and components and shorter building period
- Conditions for success:
  - Ship owners willingness to accept standardised solutions
  - Close cooperation or partnership with shipyards and main subcontractors of ship equipment
  - Close cooperation with design, engineering and production personnel
  - Increased productivity in production

>> The shipyards have major problems bringing into practice their ideas behind module based design. Why?

Fafo

The nature of shipbuilding production



Fafo

Rethinking of module based design – organisational modularisation

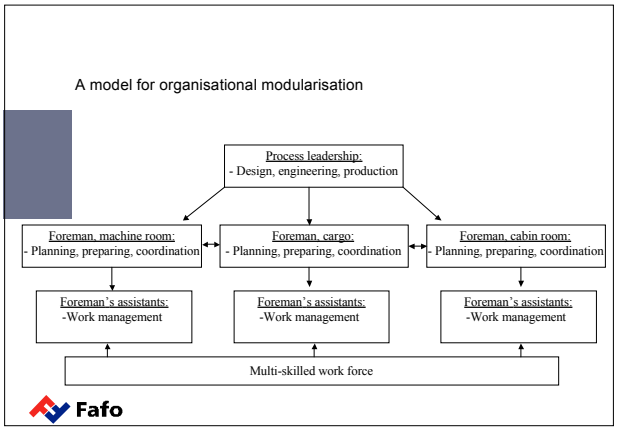
- Every module is a functional unit with clear-cut borders to other modules
- Every module has an organisation of its own
- Design, engineering and production are multi-team oriented

Fafo

Organisational modularisation – a long way to go?

- From the building of complete hulls to building of hull modules
- From the outfitting of whole hulls in the dock to outfitting of parts of the hulls physically taking place at several sites
- From an organisation based on professions and divided into departments and trades to a multi-team oriented, module based organisation
- From a traditional foreman role concentrated on day-to-day management to a new foreman role engaged in the planning and preparing of production
- From a focus on transformation to a focus on flow

Fafo


A model for organisational modularisation
Process leadership:
- Design, engineering, production
Foreman, machine room:
- Planning, preparing, coordination
Foreman, cargo:
- Planning, preparing, coordination
Foreman, cabin room:
- Planning, preparing, coordination
Foreman's assistants:
-Work management
Foreman's assistants:
-Work management
Foreman's assistants:
-Work management
Multi-skilled work force
Fafo