Design of value chains in volume-intensive market segments – exploiting economies of scale, scope and integration

Staffan Brege - Professor, Department of Management and Engineering, Linköping University, Sweden

Tomas Nord - Assistant Professor, Department of Management and Engineering, Linköping University, Sweden

Daniel Nordigården - Assistant Professor, Department of Management and Engineering, Linköping University, Sweden

Agenda

1. Why study design of value chains
2. Research approach and design
3. Research findings and contributions

1 The competitive landscape in the wood value chain is seeing substantial change requiring suppliers and customers to design more complex value chains

Changing landscape…

- Increased consolidation with fewer and bigger actors along the different steps in the value chain
  - Wooden-based companies face fewer and larger potential volume customers
  - Large mega-retailers have no longer the same options to play different suppliers against each other
- Competition is enhanced by increased globalization

…requiring to re-think traditional strategies

Economies of Scale → **Economies of scope** → **Economies of integration**

Sawmills →

Wood components manufacturers →

Secondary product manufacturers →

Unexplored competitive advantage:

- Building new constellations
- Developing augmented product-service solutions
- Increasing availability

2 Our paper describe a business case which is a cooperation between two suppliers and one customer

Supplier side

Sawmill company

- Solid finances
- Large scale orientations

Wooden component manufacturer

- Small-scale
- Not able to function on its own as a partner to the large customer

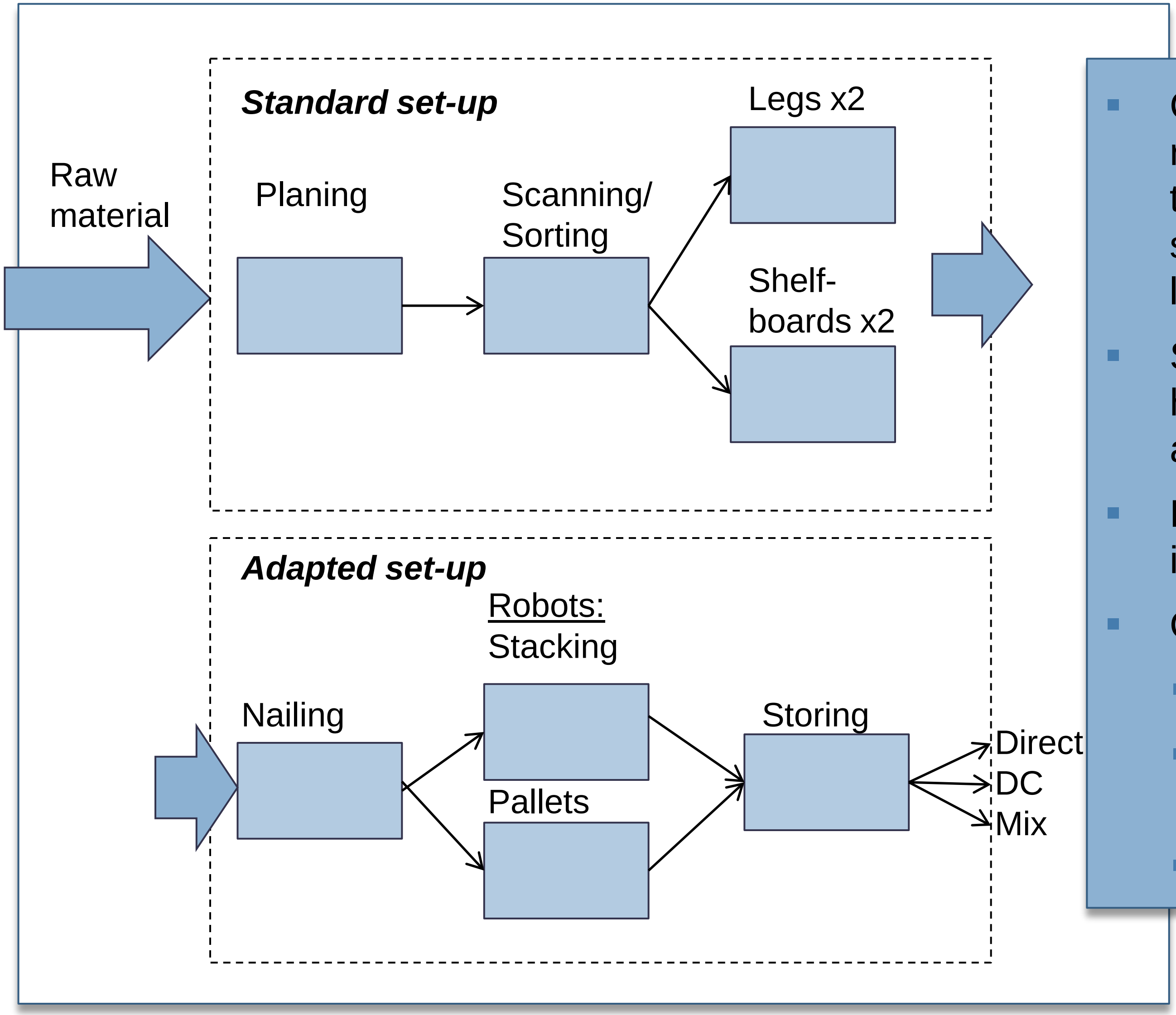
Customer side

Mega-retailer

- Solid finances
- Focus on large volumes

- Case studies semi-longitudinal describing development from 2002-2010
- Case studies based on data collected through 14 in-depth interviews with management personnel plus additional follow-up discussions

Production layout of wood manufacturer involved standard and adapted machines and flows = asset specificity



- Customer and product requirements demanded the creation of highly specified production layout.
- Standard machines and high automation created asset specificity.
- Established barriers of imitation
- Obstacles:
  - From bulk to product
  - Competence in purchase
  - Professional company

3 Design more complex value chains change traditional roles

Changed roles

Sawmill company

- New customer segments
- Higher focus on legal agreements

Wooden component manufacturer

- Large-scale volume
- New products
- From bulk to products
- New supplier contracts/ sourcing
- Company role

Mega-retailer

- New role as value chain coordinator
- Changed relationships

Large change for both customer and suppliers

- Suppliers need to re-think their traditional way of considering products
- Customer change role to coordinator to support value chain development
- Economies of integration from opportunity of planning and managing the chain

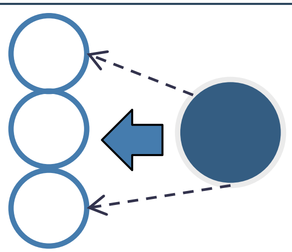
3

From buyer dominant to more balanced supply chains also in the wood products industry

The development in supplier relations has moved towards a more balanced state due to:

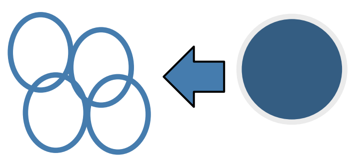
- Consolidated market with large buyers and suppliers
- Focus on low-cost in combination with reliability

Economies of scale



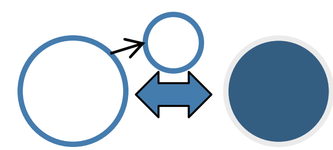
- Bulk products
- Arms-length relations
- Competitive market
- Buyer dominant

Economies of scope



- Adapted products
- Partnership relation
- Supplier groups
- Buyer dominant

Economies of integration



- Adapted products
- Dyadic relation w. third party
- Balanced relation

Our research makes first steps towards describing the design of more complex value chains (and business models), with more than two partners involved

Example of hygiene factors for small-scale partner

- ✓ High access to raw material
- ✓ Right equipment and possibility for automation
- ✓ Long-term contracts

Results of new value-chain design

- ✓ Stability (opportunity for planning)
- ✓ High capacity
- ✓ Flexibility

Thank you! Any questions?