

New business models and marketing designs for the nordic sawmilling industry - hypotheses for marketing nordic wood products and a SWOT analysis

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ABSTRACT

This study is a compilation of the results of the Finnish-Swedish research consortium "Specific Properties, Competitive Ability and Advanced Conversion of Nordic Pine in Mechanical Wood Processing" (SPWT) as a part of the Wood Material Science and Engineering Research Programme.

The purpose of this study was to analyse the main drivers for the business development of Nordic sawmills in the UK market, and provide propositions for possible new business models/designs to the sawmilling industry to respond to these drivers.

The need for sustainability, new types of products, and new types of relationships and responsiveness have been identified as main drivers for the business development of Nordic sawmills in the UK market.

Propositions for Nordic sawmill industry have been presented based on the understanding of the UK market information and the main drivers for business development in the UK construction market. Possible new business models have been analysed under the concept of "value proposition". New types of products are the core of the value proposition. In addition, supply chain modifications, customer interface and relationships were analysed. As a conclusion, the ingredients of value propositions were presented through twelve propositions, which were composed of numerous individual suggestions for improvement, finally composing a SWOT analysis for Nordic sawmilling industry.

The results of this study enable us to show that the future sawmilling industry – in the next ten years at least – will need the restructuring of the whole supply chain. Innovative development of business, products and processes require value based management of integrated supply chains and taking special care of customer interfaces and relationships

BACKGROUND OF THE STUDY

Nordic wood products face competition from substitute materials, alternative wood species, and suppliers from emerging wood-producing regions. Nordic wood products manufacturers have traditionally communicated the superior wood properties compared to other wood species of the region or species grown in other geographical areas in their marketing. Pan-European

standardisation seems to equalise woods of different quality, and hamper the potential of the highest and special grades in marketing and end use. More severe competition requires that the Nordic wood products industry increase its innovativeness. It must be able to reposition its offerings in current and new potential market sectors as well as plan new marketing strategies. Since high raw wood material and personnel costs suggest that Nordic producers will be disadvantaged in competing in commodity markets, the industry seeks to shift its strategy towards special and custom-made products with added value.

This study is a compilation of the results of the Finnish-Swedish research consortium "Specific Properties, Competitive Ability and Advanced Conversion of Nordic Pine in Mechanical Wood Processing" (SPWT) as a part of the Wood Material Science and Engineering Research Programme. The objectives of the consortium project are to position Nordic Scots pine firmly in the main product segments, to develop proposals for improved utilisation of wood and timber properties in wood procurement, manufacture and marketing in key wood product segments, and to define and develop proposals for new product and marketing strategies for Nordic pine industries.

The purpose of this study was to analyse the main drivers for the business development of Nordic sawmills in the UK market, position Nordic timber business with a SWOT analysis, and provide propositions for possible new business models/ designs to the sawmilling industry to respond to the current business situation and drivers.

STUDY MATERIALS AND METHODS

The material for this paper is based on research reports of University of Helsinki, Department of Forest Economics, as follow:

- "Timber product markets in the UK"
- "Comparative analysis of key competitors in the UK wood construction and joinery industries"
- "New business models and business designs for Nordic sawmilling industries- Hypotheses for marketing of Nordic wood products to the UK construction market"
- "Drivers of timber usage and the value propositions for industrial customers in the UK construction market - Foresight of the UK timber industry experts"
- "Foresight of the UK and German construction market and corresponding value proposition ingredients for industrial customers"

The three first-mentioned reports are based on the secondary materials obtained from publicly accessible sources. The data for the study "*Drivers of timber usage and the value propositions for industrial customers in the UK construction market - Foresight of the UK timber industry experts*" study was obtained by qualitative questionnaire and personal interviews in the UK market area. The data for the "*Foresight of the UK and German construction market and corresponding value proposition ingredients for industrial customers*" study was collected by quantitative questionnaire and personal interview in the UK and German markets.

RESULTS

Main drivers for business development in the Nordic sawmilling industries

Demand for sustainability, new types of product, and new types of relationship and responsiveness have been regarded as the main drivers for business development in the sawmilling industries.

Demand for sustainability

Sustainability is one of the most important drivers in the construction sector as well as one of the most important drivers for business development in sawmilling industries. Main impetus for sustainability in construction sector mainly comes from government planning system and regulations. The main drivers for demand sustainability are listed as following:

- Climate change
- Reduction of waste in construction
- Efficiency of construction
- National sustainable strategies and sustainable construction strategies
- Legislation changes in favour of sustainability
- Cost driver - affordable housing
- Technical driver - development and adoption of Modern Methods of Construction (MMC)

Demand for new types of product

The building and living with wood environment is changing, providing an increasing market demand for new types of timber product. Demand for new products means demand for eco-products, building system products and wood components and semi-finished products. There are nine main drivers for demand of new types of timber product in the construction sector:

- Higher environmental (and other) standards in building regulations (or other related regulations)
- Adoption of modern methods of construction (MMC)
- Increase in timber- frame building
- Lack of housing
- The shortage of skilled labour in construction
- Promotion of wood as building material
- Cost competitiveness of building materials
- Demand for innovative designs and R&D
- Sustainability of housing and building materials

Demand for new types of relationship and responsiveness

As the traditional methods of construction are being replaced by more advanced methods i.e. MMC, new types of product are demanded rather than traditional products. The sawmilling sector has to find new practices, form new types of relationship, and undertake new kinds of responsibility to be able to meet these challenges.

The main drivers for new types of relationship and responsiveness come from the market and business itself, from the needs and requirements of various members of the supply chain. The changes in the structure of the construction sector, and changes in the supply chain in the general

construction market have led the changes in the timber product supply chain, from which new kinds of relationships and responsiveness have emerged:

- Timber suppliers have participated in creating partnerships with different stakeholders in a number of new ways
- The UK timber products supply chain is in a transitional phase
- In the construction market timber suppliers now systematically emphasize the importance of product distribution and availability
- There is increasing demand for information in the timber supply chain on: products, conformity, cost, environment, and technical support
- The UK construction industry has introduced training and education campaigns in order to improve the use of timber in construction
- There is increasing demand for services in timber supply, like technical support, JIT deliveries and tailor-made services, etc.

SWOT analysis

This SWOT analysis will provide an overview of the competitive situation for the Nordic pinewood sawmilling industry, and will give a background to the study as and for the future challenges of the industry. In the analysis of strengths and weaknesses the overarching aim is to identify the key strengths that could generate competitive advantage and to spot the weaknesses that have to be dealt with in some way, either by abandoning some market segment or to be overcome by means of innovation or compensation.

Strengths

Physical

1. Appropriate production units: large, modern.
2. Advanced production technology: log-x-ray, drying and sorting, camera and other NDT grading systems.
3. High quality raw material supply: ample timber resources, good dimensional stability, aesthetics, few juvenile and reaction wood problems, thermal and sound properties, heartwood durability (in certain end-uses), easy drying and good drying quality, possible to impregnate, strength.
4. Wood is easy to modify, and for end-user to repair and maintain.
5. Variability in raw material properties makes it suitable for a range of products
6. Sustainable forest management guarantees a long-term supply.

Organisational

1. Efficient organizations: flexible, informal, market-segment oriented, online product availability, service, integrated flow of raw material.
2. Strong domestic markets, both for sawn products and by-products.
3. Good image and reliability, and good promotion programmes such as Wood for Good
4. Improving product development: importance of PD and customer orientation is increasing; skills in re-active product development.
5. Good development atmosphere (industry – research – public bodies)
6. Established environmental certification schemes (Chains of Custody)

Human

1. Good production knowledge: sawmilling and wood procurement technology, planning, quality control, planning/production management systems, and automation; skilled workers
2. Skills in special and tailor made products and solutions, but among a minor part of the companies
3. R&D skills in technical issues

Weaknesses

Physical

1. Raw material sensitive to moisture, soft, twisting during drying, splitting, mechanical connections often problematic, variation in strength, poor fire resistance
2. Currently little use of technologies for material and product modelling, CAD/CAM, simulations, and prototypes for product development.
3. Poorly utilised potential for further processing.
4. Unfavourable geographic location in relation to growing export markets.

Organisational

1. Fragmented and traditional industry structure which sometimes is inflexible and old-fashioned.
2. Problems in the supply chain due to long lead-time for delivery, insufficient co-ordination, and large share of timber sold indirectly through intermediaries.
3. Defensive, sometimes unstructured product development.
4. Lack of market information, including insufficient co-operation with architects and designers, and other members of supply chain
5. Minor collaboration and scarce vertical integration between individual manufacturing companies
6. Too strong integration to pulp and paper industries?
7. Uncertainty and complexity in wood supply to the mills

Human

1. Low marketing know-how among the value chains (understanding of customer expectations)
2. Too little diversity in the companies: gender, ethnicity, age; this may limit recruitment of talent and innovativeness.
3. Low capacity in end-user focused product development
4. Lack of innovative spirit.

Opportunities

Consumers/markets

1. Well known, traditional material.
2. Promising market niches in existing markets due to diversified preferences (e.g. in the UK): affordable housing, outdoor decking and garden products, eco-products, system solutions, EWPs.
3. Increased demand for sustainable, environmentally friendly products.
4. Demand-growth in new geographic market areas (Asia, Eastern Europe, Oceania, USA)

5. Changes (integration and consolidation) of marketing structures can imply new opportunities: E-business networks, relationship marketing. This is both an opportunity and a threat!
6. Increasing preference and demand for pine timber in construction (Building with Wood) and indoor sectors (Living with Wood).
7. Increasing demand of bio-energy products: integration to bio-energy markets.

Supply

Improved silviculture, forest operations and logistics will increase the wood supply as well as the quality of the raw material.

Legal-Institutional

1. Environmental, energy and climate policies may help the wood industry.
2. Development of a Pan European Timber frame construction system could open new markets and boost innovation.
3. Possible increasing importance of environmental certification
4. Product standards can favour pinewood (e.g. lifecycle assessment, focused strength and durability, etc)

Management

1. Potential to improve SCM: Supply-chain knowledge, Customer steered production technology, Rationalised distribution
2. Potential to improve of innovation: There are methods to “speed-up” innovation (consumer research, CAD/CAM etc)
3. Potential to improved marketing: sales engineers, technical specifications for marketing
4. Potential to improve industry collaboration and consolidation of value chains, creating systems and system products

Technology

1. Potential for technological processing improvements: new treatments, new kinds of façade elements and durable material, high strength lamellae for gluelam etc.
2. Potential for better specifications of the wood products, life cycle specifications, technical specification for grades
3. Possibility to integrate the sawmilling with value-adding processes (secondary wood industries or construction)

Threats

Consumers/markets/competitors

1. Slow growth of demand of sawn timber in Europe
2. Volatile markets because of business cycles, changing tastes of consumers, etc.
3. Increased competition pressure from other materials, and other wood producers (e.g. from Eastern Europe and Asia).
4. Conservative customer segments (e.g. construction) will slow down market information and hence the chances of improvements and innovation.

Supply

1. Climate change and its potential impact on the pine supply in a long run (wetter, warmer climate)
2. Weakening availability and deteriorating quality of logs (cultivated and younger log stands).
3. Rising log prices that are inflexible to changes in the end-product markets

4. Small raw material differences between Nordic pine and other softwood species similar end-products in other regions, utilising the modern manufacture technology.

Legal-Institutional

1. Construction markets, e.g. in UK, favour domestic manufactured value added timber products
2. Standards and building-codes can disfavour wood
3. Environmental credibility of wood is sometimes questioned (clearcutting, biotope destruction, illegal logging)
4. Concerns about the safety and healthiness effects of pine wood.

Technology

1. Improved performance and better environmental properties for competing materials.
2. Rapid transfer of new technological innovations to competing timber producing countries limits the period of competitive advantage due to innovations.

Propositions for the Nordic sawmilling industries

Customer Oriented Relationship and services

Customer orientation should be the key guidance for timber business in the future

- The relationship is expected to be customer oriented, which increases the demand for efficient customer relationship management (CRM)
- Most important features of this relationship are: 1) Thorough knowledge of customer's business process, 2) Partnership, 3) Rich communication, 4) A solution-based approach, and 5) Ease of relationship

Nordic Sawmilling companies should:

- pay a great attention to tailor-made services, such as adjusting service to specific customer requirements, ICT-solutions, education and co-operation in production development
- Providing new value adding service solutions is important (e.g. technological solutions)
- develop their availabilities for better products and services to the local market- investing in local manufacturing facilities, and/or building own local distribution networks, or cooperating with local and regional manufacturers and distributors
- offer a complete service and support to their clients, such as product information, and after-sales services
- develop client-focused designs, after-sales service, and lifetime client care
- On time delivery (JIT) plays a key role in customer service
- increase their training/education services related to the product or systems solutions (targeted both at their own staff and customers)
- further develop their online services in availability of product-related information and standardised purchasing services
- be able to offer supported technical data, information concerning product availability, distribution, environmental issues, maintenance information and after-sales services. Printed brochures, and website will be developed for this purpose

- provide more personal customer support with comprehensive groups of specialists
- promote system integration and comprehensive data interchange between their partners and customers

Value based Philosophy in the Future Business

Nordic sawmilling industry should:

- adopt the value-based ways of thinking and working, and apply value management as a performance improvement tool
- focus on the customers and receive guidance from major clients about value creation and delivery
- adopt strategic account or key account management (SAM) principles to manage their important customers
- adopt customer focus and value in their company culture, and make it visible in their corporate mission, vision, and values

Future Supply Chain

Distribution restructuring and supply chain management:

- The main issue in the future supply chain is request for value adding and shortening of supply chain
- Sawmill industry should aim at more direct relationships with customers and a shorter distribution structure.
- The Nordic sawmilling industry should accept supply chain management with its many tendencies as a key perspective
- Merchants are seeking new business models in order to remain at the market place. New models may include designing, manufacturing, and maintenance services during the life cycle of their offerings
- Weakening roles of timber agents and importers
- The manufacturer of value-added and system products will play more important role in the house-builder's supply chain

Integrated supply chain

- Nordic sawmilling industry should develop integrated supply chain and effective supply chain relationships
 - Sawmilling industry should focus on reduction of the total cost of the supply chain
 - The company and partners should work together to analyse every part of the supply-chain process in order to eliminate non value adding functions
 - An integrated supply chain requires effective supply chain relationships, closer customer relationships and efficient communication and information flow
 - Shortening cycle times for delivery and inventory of goods and services should be a key aspect of an integrated supply chain
 - A good integrated supply chain requires creation of common conduct and a common goal for all the supply chain members

- Nordic sawmilling companies should be involved in the customers' business processes at the earlier stage, and work in close collaboration with the other participants, such as architects and engineers
- architects are the most influential group in the choice of construction materials, thus Nordic sawmilling industry should improve their marketing communication with architects.
- Timber suppliers should share better information, develop sufficient communication with and commitment to supply chain members
- Nordic sawmilling companies should pay close attention to improving their integrated marketing communication.

Guidelines for Research and Development

The most important product characteristics of future construction markets:

- Guaranteed performance of the products
 - Consistent quality
 - Stability
 - Durability
 - Strength
 - Environmental friendliness
- Call for individuality and adaptability, but also for standardization
- Cost efficiency
- Functionality, i.e., ease of working with
 - In-design characteristics (easy to design)
 - On-site characteristics (easy to build install, etc)
 - In-use characteristics (easy to maintain, long service life, etc)

Future trends in product development and innovations

- Sawmilling industry should adopt one or a mixture of product strategies, although the focus should be on new and value added products. The industry should satisfy market needs and provide the most desirable products
- Successful product development should be based on customers' needs and wants
- Developing new products and service solutions based on MMC principles
- The most significant product innovations in the timber sector should be related to the manufacture of engineered timber products and system products
- Nordic sawmilling companies should pay close attention to intelligent, resource-efficient production technologies
- Sawmilling industry should find new uses for poorer quality timber and develop processes to improve its quality
- Standardization and prefabrication will be significant factors in the timber business
- Technological changes in the sawmilling industry should be influenced by and combined with the development of IT
- The sawmilling industry should focus their product development and innovations on:
 - Strength grading,
 - Tailor-made products
 - Value added innovative products
 - EWPs and system solutions

- Development of new product applications
- Improved ecological performance in timber products
- Compliance with building safety standards
- Facilitation of installation processes
- Utilisation and development of (environmentally friendly) protective treatments and coating

CONCLUSION

The results of the study, suggest the outline of the future sawmilling industry for the next ten years at least. The sawmilling industry will concentrate on industrial restructuring (including organisational restructuring and distribution restructuring) and the re-engineering of the various processes to achieve product development and innovations through integration of the supply chain, value management, relationship management and so on. Twelve propositions for future timber business have been suggested as follow:

P1. The value based philosophy will play an important role in the sawmilling business in the future. Nordic sawmilling companies will build a vocabulary of value into their common business. The best value approach will focus on the customers' needs.

P2. Nordic sawmilling companies will support the development of integrated teams and supply chain to achieve maximum value and optimum performance. Integrated team and integrated supply chain lead the changes in the timber business. The objective of integrated teams should be adding value.

P3. The Nordic sawmilling industry will increase its awareness and performance in social, environmental, and economic responsibilities.

P4. Product development and innovation will be essentials for the Nordic sawmilling industry. Product development and innovation have to be customer driven.

P5. Product development will be done through the integrated team, not by sawmills alone. Nordic sawmilling companies will provide efficient cost information to the team members.

P6. Industrial customers will increasingly demand environmentally friendly timber products. The sawmilling sector will require more sustainable design guidelines.

P7. The future of timber marketing will be about distribution restructuring and supply chain management.

P8. Customer orientation will lead the timber supply to supply chain integration, and to integrated marketing communication.

P9. Timber customers will expect sawmills they do business with to understand and meet their objectives. Nordic sawmills will build long-term "business partnerships" with their clients in order to add value to them. Relationship marketing will be the future for the timber business.

P10. Nordic sawmills will increase the presence of local availability in their business. They will also increase the level of their services.

P11. E-Business is an exciting new environment in which to do business. Nordic sawmills will take full advantage of these opportunities and benefits to develop their business.

P12. There will be new forms of business model in the timber business, which consists new forms of supply channels, partnership and responsiveness.