



ABTCP-TAPPI 2000

Congresso Internacional de Celulose e Papel
23 a 26 de Outubro de 2000
São Paulo - Brasil

Pulp and Paper International Congress
October 23rd to 26th, 2000
Sao Paulo - Brazil

COMPETITIVENESS AND CORPORATE PERFORMANCE IN P&P SECTOR THROUGH TECHNOLOGY

Markku Karlsson

Metso Corporation
Corporate Headquarters

Inglês / English



COMPETITIVENESS AND CORPORATE PERFORMANCE IN P&P SECTOR THROUGH TECHNOLOGY

Markku Karlsson
Senior Vice President, Corporate Technology
Metso Corporation
Corporate Headquarters
PO Box 1220
FIN-00101 Helsinki,
Finland

ABSTRACT

Strong corporate performance continues to be a tough challenge for the Pulp and Paper (P&P) sector. Significant improvements in long-term competitiveness are being achieved through investment in rationalisation and renewal of assets

Corporate performance of paper-makers depends critically on different combinations of factors linked with what they make, where they make it, and, technologically, how they make it. Investment scenario calculations for new capacity and rebuilds show the substantial impact of strategic investments in new technology solutions on competitiveness of assets.

Technology comes in many shapes and sizes from new high speed paper-making technology delivering large scale, high efficiency capacity, to on-line rebuilds for new levels of efficiency, to more sensitive process upgrades to restore competitiveness of older assets.

Most excitingly automation, IT (Information Technology) and communications technologies will revolutionise sensing and control in the paper-making process from wet-end to product and drive new possibilities for highly integrated customer after-care and service.

High speed paper-making technology has delivered major advances in cost competitiveness and product quality. New competitive factors in paper machine technology are on-line process solutions, full-line integration of machine and automation with embedded service functionality, simplification concepts, closed system concepts, new machine layouts and building designs, and modularisation of machine elements.

Business performance in the pulp and paper (P&P) sector has been systematically improved through rationalisation and renewal of assets using technological solutions to drive competitiveness, in particular through the benefits of high speed, high product quality technologies, and new approaches to customer care.

Key-words: Technology; Pulp and Paper; Competitiveness
Palavras-chave: tecnologia, celulose e papel, competitividade

INTRODUCTION

Strong corporate performance continues to be a tough challenge for the Pulp and Paper (P&P) sector. Significant improvements in long-term competitiveness are being achieved through investment in rationalisation and renewal of assets and through consolidation of businesses and operations.

Profitability and cost competitiveness are top priority operational issues and are critically influenced by investment effectiveness, both in planning and implementation.

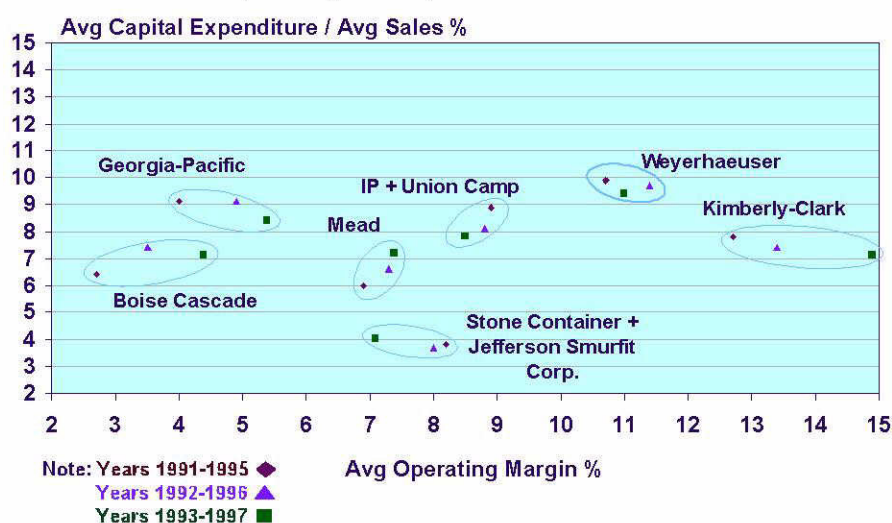


Figure 1, North America: Five years period comparison of investment vs profitability [1]

Despite this major commitment to P&P industry restructuring, share performance since 1995 in the sector has been comparatively weak, showing none of the steady growth enjoyed by 'top 500' companies. Investor vision or confidence has not yet been inspired by promise of a more effective P&P industry structure or better managed assets or healthy demand forecasts. Investors still view the P&P sector as low performance stocks and turn instead to the fast growing 'technology stocks' in IT products and services and Communications.

INVESTMENT AND COMPETITIVENESS

The long-term competitiveness of paper is recognised as the primary target for investments and industry restructuring in the P&P business.

Corporate performance of paper-makers depends critically on different combinations of factors linked with what they make, where they make it, and, technologically, how they make it.

Investment scenario calculations for new capacity and rebuilds show the substantial impact of strategic investments in new technology solutions on competitiveness of assets. [2]

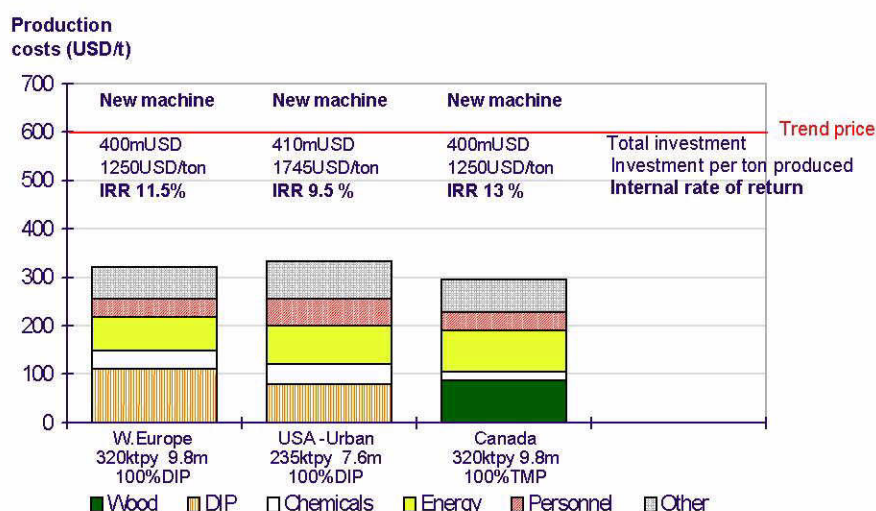


Figure 2, Investment scenarios of new newspaper machines [2]

On the other hand in 1999-2001 North America is facing the lowest rate of capacity additions in 40 years, 0.9% pa. NA paper-makers are focusing on running existing assets at highest efficiency with minimum investments. Corporate performance will depend on how competitively these assets can be managed which will unavoidably reflect the true level of technological competitiveness of the assets.

THE CORPORATE PERSPECTIVE

The Corporate Perspective recognises the complexity of the environment in the global P&P sector. No two customer situations are the same therefore no two technology solutions are the same. Corporations must be flexible and innovative in the interpretation of their technology to deliver new solutions.

However corporations also face key shared issues and global problems in the P&P business. These include constraints on capacity growth, the burden of high investment costs in low business cycle, significant changes in quality and functionality for next generation papers and boards, and the role of paper-making in environmental management.

Corporations must be committed to developing new business and technology concepts and implementing effective solutions in partnership with their customers.

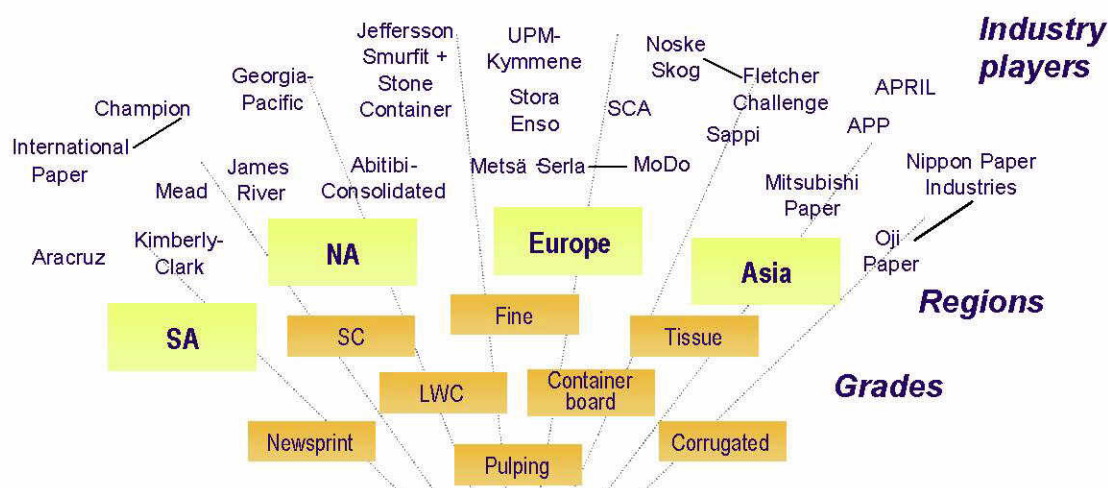


Figure 3, The complexity of serving the pulp & paper sector

The company can be successful in this complex environment by providing business and technological competitiveness through the portfolio of full-line machine concepts, process spearheads, integrated automation and embedded service systems. Each technology solution is focused on better investment effectiveness combined with higher levels of end-product quality and functionality.

THE ROLE OF TECHNOLOGY

Technology is now the most critical factor in achieving sustained competitiveness and corporate performance.

For example, the role of technology in corporate performance is highly visible in IT and Communications companies as they continue to demonstrate, at its best, the challenge of matching new complex technological functionality with rapidly changing needs and demands of human activity. The results of this huge effort in harnessing technology was seen in the 1998 'world's best stocks' performance listing. The top 5 best stocks on US market were all IT and Communications stocks.

Olivetti, Italy	553
Colt Telecom, UK	504
Dell Computer, US	255
Nokia, Finland	249
Apple, US	211

Figure 4, World's five best performing shares of 1998 (% change in US dollar terms (data from Dec 31 1997 to Dec 29 1998) [3]

Similarly technology is key to the performance of the P&P sector. Technology comes in many shapes and sizes from new high speed paper-making technology delivering large scale, high efficiency capacity, to on-line rebuilds for new levels of efficiency, to more sensitive process upgrades to restore competitiveness of older assets.

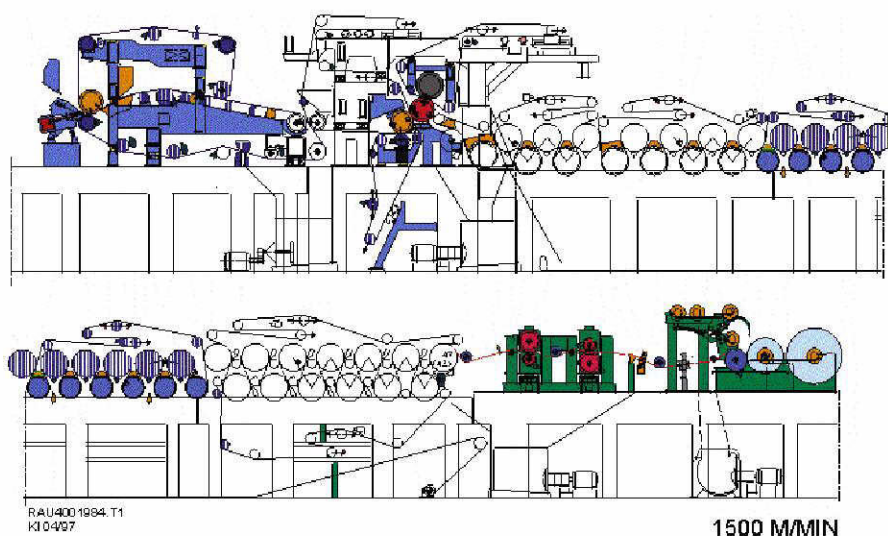


Figure 5, Typical rebuild, newsprint

Most excitingly automation, IT and communications technologies will revolutionise sensing and control in the paper-making process from wet-end to product and drive new possibilities for highly integrated customer after-care and service.

TECHNOLOGY AND COMPETITIVENESS

High speed paper-making technology has delivered major advances in cost competitiveness and product quality. Innovations relating to the production process are going ahead systemically. Integration between process units is being expanded to the whole production line. Process control is getting closer to electronic control with integrated automation, virtual sensors and intelligent materials. Valmet's launch of OptiConcept in 1998 was a significant milestone in the P&P business.

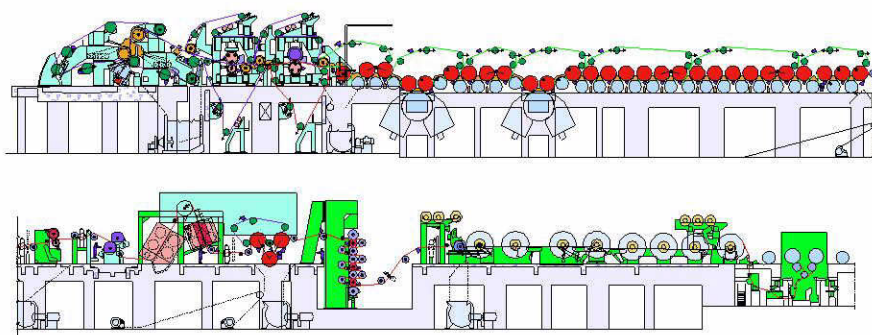


Figure 6, Modern LWC line with on-line calendering - OptiConcept

The table below illustrates future focus areas in paper-making technology development. OptiConcept has already introduced the first steps in multilayering of additives, on-line surface treatment, integration between unit processes and system closure, however, much more is to come.

<i>Today</i>	<i>Future</i>
Low controllability of sheet structure (z-direction)	Multilayering - additives and fibres
Low value added product	Increase in on-line surface treatment - 'coating' in headbox, wet-on-wet (WOW) - wet end sizing, multiip calendering
Unit processes separate from each other	Integration between unit processes - drying + pressing = impulse technology
'End of pipe' approach	System closure - 'Clean technology approach'

Table 1, Integration of unit processes

New competitive factors in paper machine technology are on-line process solutions, full-line integration of machine and automation with embedded service functionality, simplification concepts, closed system concepts, new machine layouts and building designs, and modularisation of machine elements.

Another important area for technology is in after sales, service, and customer care. Innovations in machinery and automation will be integrated with information and communication technologies to enable life-cycle responsibility and create life-cycle relationships. Metso's concept development program called Future Care focuses on advances in customer care through new embedded technology and e-services.

Future Care is Metso's concept development program, which is focusing on advances in customer care particularly through expert service centers and e-services. Today Metso's customers buy capital equipment with service. Tomorrow Metso will deliver Future Care service with its advanced process technology.

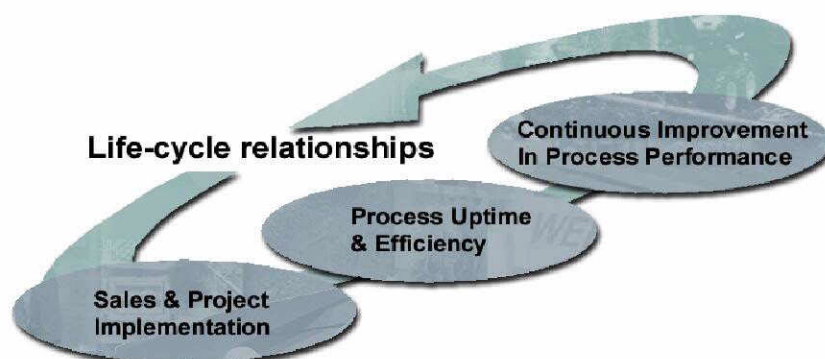


Figure 7, Future Care concept

CONCLUSIONS

Business performance in the pulp and paper (P&P) sector has been systematically improved through rationalisation and renewal of assets using technological solutions to drive competitiveness, in particular through the benefits of high speed, high product quality technologies, and new approaches to customer care.

In the future new consumer pressures, new customer and market dynamics and new industry strategies will all result in further important opportunities for effective development partnerships and timely implementation of technology.

REFERENCES

1. SalomonSmithBarney
2. Valmet and Jaakko Pöyry Consulting research
3. Jeffrey Brown, Financial Times January 4, 1999