



Gestão eco-eficiente orientada para obtenção de resultados econômicos para as empresas

BUSINESS - ORIENTED ENVIRONMENTAL MANAGEMENT

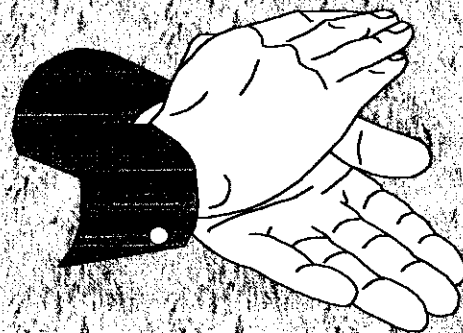
Celso Foelkel



SIMPLIFICATION

THE SIMPLER

THE BEST



EMPOWERMENT OF OPERATORS

- # AVOID ROUTINE TASKS**
- # WORK FOR RESULTS**
- # AWARD SYSTEM**

EMPOWERMENT OF OPERATORS

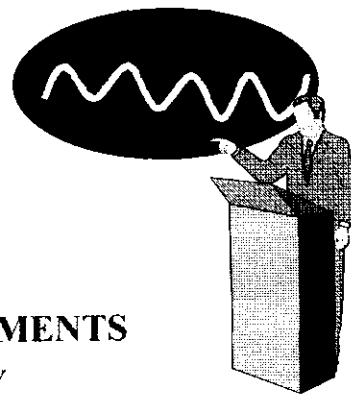
- # PROCESS CONTROL LINKED**
- # WIDE INTEGRATION**
- # WHOLE MILL CONCEPT**
- # AVOIDING DISTURBANCES IN PROCESS**

EMPOWERMENT OF OPERATORS

- # **HIGHLY QUALIFIED PEOPLE**
- # **JOB ENLARGEMENT**
- # **MONITORS / ANALYSTS / PURCHASERS OF THE REQUIRED SERVICES**
- # **PRODUCTION ORIENTED & ENVIRONMENTALLY FRIENDLY**

MEGATRENDS

FRAGMENTED MARKET
VOLATILE MARKET
GLOBAL MARKETS
COMMODITY PRODUCTS
DECLINING PRICES
LOW PROFITABILITY
HIGH CAPITAL REQUIREMENTS
SUSTAINABLE FORESTRY



MEGATRENDS

SCALE OF PRODUCTION

CONSOLIDATION / MERGERS

INFORMATION / INTEGRATION TECHNOLOGY

ENVIRONMENTAL RESTRICTIONS

ECO-FRIEND INDUSTRY

SAFETY & OCCUPATIONAL HEALTH

CLOSED SYSTEMS



"FEWER PLANTS / HIGHER CAPACITIES"

DRIVING FORCES

COMPETITIVENESS

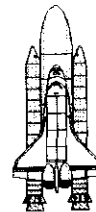
**COST EFFECTIVENESS (CAPITAL /
OPERATING)**

PRODUCTION STABILITY / FLEXIBILITY

WISE UTILIZATION OF RESOURCES

- MAN
- WOOD
- ENERGY / CHEMICALS
- MACHINERY

NEW MARKETS AVAILABILITY



DRIVING FORCES

PROVEN TECHNOLOGY

DISTRIBUTION

QUEST FOR SURVIVAL

QUALITY STABILITY

**HUMAN RESOURCES (INTELLECTUAL
CAPITAL)**

**REDUCTION OF ALL WASTES AND BETTER
USE OF RAW MATERIALS AND ENERGY**

PRODUCTIVITY

MAINTENANCE

MAINTENANCE & BETTER ENVIRONMENT

**AVAILABILITY (USE OF AVAILABLE
MACHINERY)**

OPERATING EFFICIENCY

HIGHLY EFFICIENT PROCESS

RIGHT DESIGN

OPERATING CONDITIONS

EMPOWERMENT OF OPERATOR

FOCUS ON PROBLEMS SOLVING

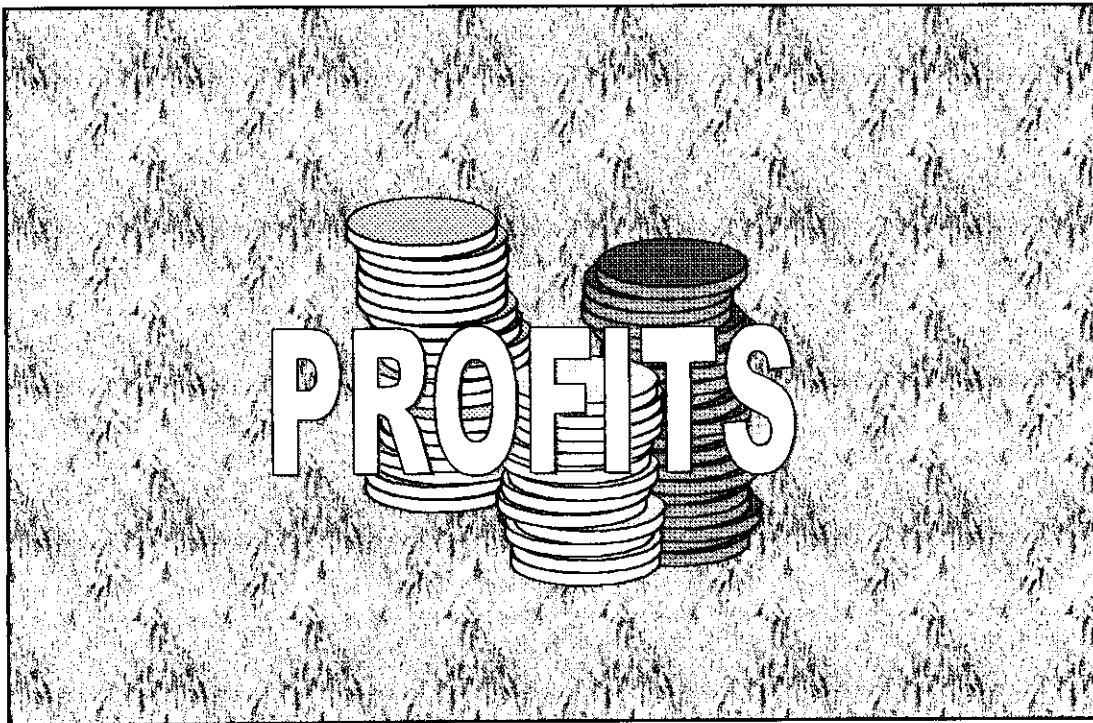
FOCUS ON WASTE GENERATION

ALL THIS MEANS

**FOCUS ON
THE BUSINESS**

EXCELLENCE

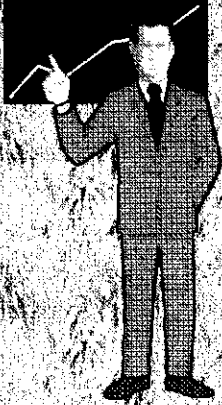
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THE NEW MANAGER' PROFILE

PROFITABILITY

MARKET POSITION
COMPETITIVE POSITION
PRODUCTION POSITION

A black and white illustration of a man in a suit and tie, holding a briefcase in his right hand. He is standing and looking towards the left. The background of the illustration is a dark, textured square.

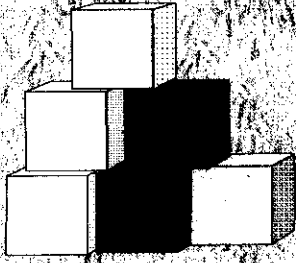
MANAGEMENT TODAY

KEY PEOPLE TO GUARANTEE


**LOW COST
HIGH PRODUCTION
HIGH OPERATING PERFORMANCE
HIGH QUALITY
EXCELLENT ENVIRONMENT HEALTH
SUCCESS IN THE BUSINESS**



**MILLS HAVE TO RUN WELL AS
MUCH AS POSSIBLE**



**PROCESS INDUSTRIES ARE
PRODUCTION ORIENTED**



**COMMODITIES ARE
LOW PRICE PRODUCTS**

CASE STUDY #1

	mill A	mill B
DAILY CAPACITY (ton)	2000	2000
EFFICIENCY	90%	80%
DAILY PRODUCTION (ton)	1800	1600
YEAR PRODUCTION (ton)	655 000	565 000
VARIABLE COST / ton	200 US\$	200 US\$
FOB NET PRICE	550 US\$	550 US\$
SALES MARGIN	350	350
<i>DIFF ON TOTAL MARGIN</i>	<i>30 MILLION US\$</i>	

CASE STUDY #1

	mill A	mill B
TOTAL FIXED COST (M US\$)	80	80
FIXED COST / ton	122	142

DIFF FAVORING mill A ***20 US\$ / ton***

INDICES OF PERFORMANCE

ADMINISTRATIVE

TECHNICAL

COST
RELATED

BUSINESS PERFORMANCE

CASE STUDY #2

600 000 ton/year

WASHER DRUM PERFORMANCE

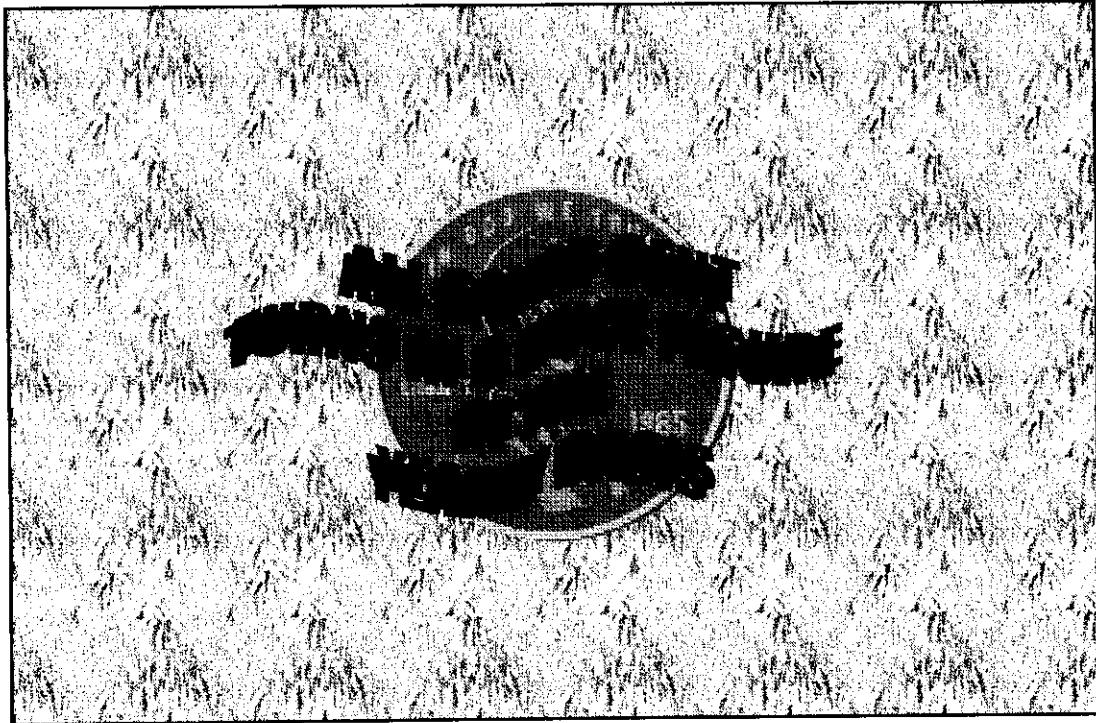
	mill A	mill B
OUTLET CONSISTENCY	14%	11%
COD CONCENTRATION (PPM)	1500	1500
COD LOSSES (kg/ton)	9.2	12.1

DIFF ACTIVE CHLORINE / YEAR **900 ton**

CASE STUDY #3

WOOD CHIPPERS / SCREENING PERFORMANCE

	mill A	mill B
SAWDUST DISCARDED	0.8%	1.5%
SAWDUST / YEAR	9,600	18,000
DIFF IN SAWDUST	8,400 ton	
DIFF IN EQUIVALENT PULP	4,200 ton	



FOCUS ON BUSINESS PERFORMANCE

**CUTTING COSTS UNTIL SEEING
WHAT RESULTS**

MANAGEMENT TEAM

**OPERATION
ENGINEERING
MAINTENANCE
R & D
SALES / PURCHASING
ACCOUNTING
ENVIRONMENT**



MANAGEMENT TEAM

IS TO ACT

AS A TEAM

AS ENTREPRENEURS

AS PEOPLE MOTIVATOR

**MONEY IS NOT
A GIFT PROVIDED
BY THE TOP
MANAGEMENT TO
BUY A NEW "TOY"**

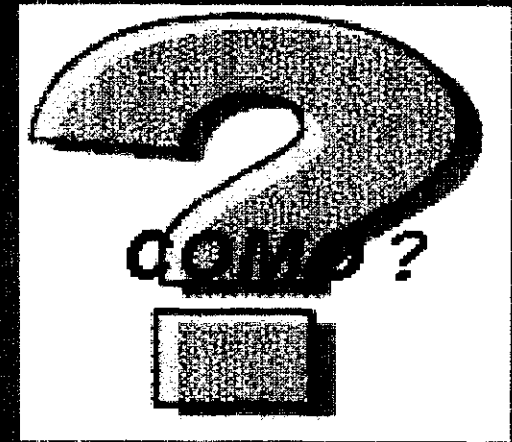


MONEY IS SPENT TO HAVE A RETURN

BUSINESS SUCCESS DEPEND ON THIS

GOOD LUCK





Custo do REFUGO da fabricação do papel

Fábrica com geração
de 20% de refugos
base produtos
vendáveis



Valor Agregado
Desperdiçado



120 dólares por tonelada

Produção diária de
250 toneladas de
produção vendável e
geração de 50
toneladas dia de
"broke"



Gastos adicionais com
manuseio e reproprocessamento

50 dólares por tonelada



Custo do Refugo na Produção Vendável

170 US\$ x 50 toneladas refugos /dia

8.500 US \$ / 250 t produtos vendáveis/dia

34 US \$ / tonelada produto vendável