



Metsä

Use cases for process data mining – – Metsä Board view

Matti Ketonen

QPR Conference 2018 – Sept 18th 2018

Contents

Metsä Group	4
Metsä Board supply chain	5
Journey from 2011	6
1 Setting base case	7-8
2 Continuous improvement of process performance	9-10
3 Identifying bottlenecks for process automation	11-12
Success ?	13
Mindset	14
Future	15



METSÄ GROUP | Sales EUR 5.0 billion | Personnel 9,800

METSÄLIITTO COOPERATIVE | Group's parent company | Owned by 120,000 Finnish forest owners



METSÄ FOREST

Wood supply and forest services

Sales:
EUR 1.6 billion

Personnel:
900



METSÄ WOOD

Wood products

Sales:
EUR 0.9 billion

Personnel:
2,150



METSÄ FIBRE

Pulp

Sales:
EUR 1.3 billion

Personnel:
850

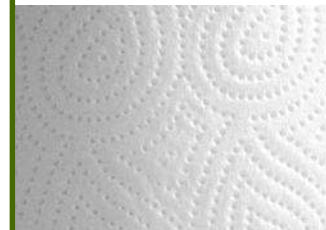


METSÄ BOARD

Paperboard

Sales:
EUR 2.0 billion

Personnel:
2,650



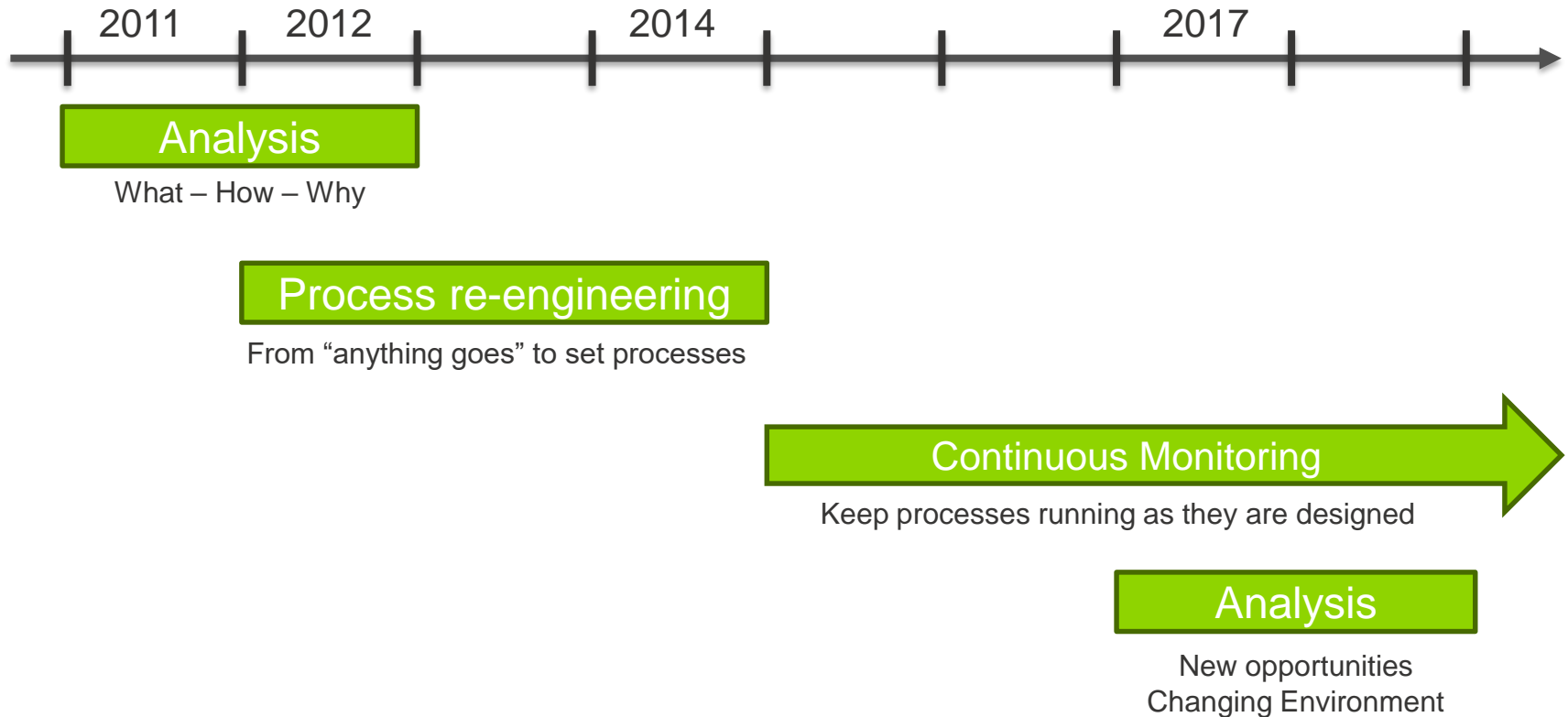
METSÄ TISSUE

Tissue and cooking papers

Sales:
EUR 1.0 billion

Personnel:
2,800

Process mining journey



Setting base case 1/2

- ERP backbone roughly 10 years old
 - Totally different business scope and company structure
 - Previous core businesses sold or closed – supply chain tools design obsolete for current core
 - Missing levels of planning and poor integration of the existing functions resulting in reactive and manual order level processing

Original assumption:

” Customers change the product specifications on their orders at the last minute”

Process data mining based fact:

” We make a lot of delivery time changes on our orders and mostly the changes are not because of the customer in question”

Setting base case 2/2

Customer offering
not clearly defined

"We can do
anything!"

&

"Let's play safe!"

Process
performance
measurement
missing

"Is my best good
enough?"

Lean Supply Chain project – Deliverables

1. Improved customer service portfolio management
 - Customers will be offered improved services -> focus will be shifted from finished goods stock days to the availability of the material.
2. Sales operations planning including logistics
 - Supply chain planning process and tools will be improved along with the version upgrade of the SAP SCM.
 - Sales order processing will be improved by better planning process design.
 - Changes to the current ERP system will be kept to minimum but changes in the planning process will cause some necessary developments in this application too.
3. Better transparency and reporting of the operations
 - The transparency of the operations will be achieved by common working processes and improved profitability reporting.
 - Value adding services can be priced more accurately.
 - Margins created and available from different parts of the business will be better understood.

Effective
processes for
managing
deviations
missing

"We'll work hard
to manage
changes."

Continuous improvement of process performance 1/2

- Standard processes for 5 supply models
 - Mill Direct Order
 - Customer Dedicated Stock
 - Common Stock
 - Convert to Order
 - Vendor Managed Inventory
- Main deviations identified and recovery processes defined
- Ability to drill into deviations from several angles
 - Mill, product, customer, customer hierarchy, geography, organization
- Intervention based on
 - Facts
 - Definite knowledge of the scope of any issue

Definition of
the supply
models

Keeping the
processes
running as
planned

Process data mining facilitates

Continuous improvement of process performance 2/2

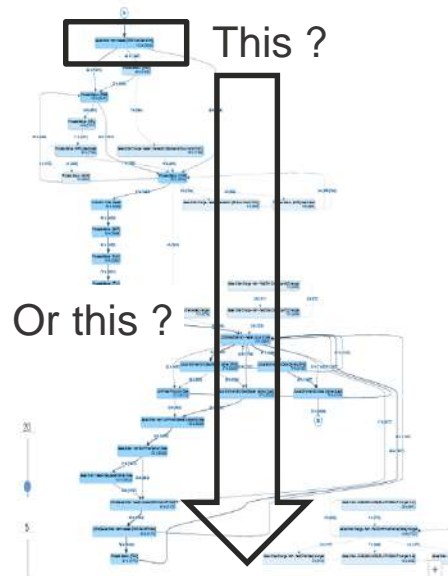
Example: One supply model & One geography

Call-off orders (ZOCO)							
Perfect Order	6%	13%	15%	17%	25%	39%	
Happy delivery	89%	87%	86%	85%	85%	85%	
First Time Right	7%	14%	18%	19%	27%	45%	
Automatic pricing	18%	28%	38%	49%	62%	66%	
Invoice created automatically	63%	92%	87%	87%	89%	94%	
No credit block	70%	70%	71%	61%	61%	88%	
No invoice corrections	88%	92%	95%	95%	96%	97%	
No order changes	85%	86%	84%	83%	84%	83%	

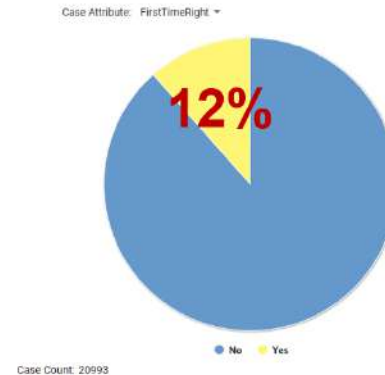


Identifying bottlenecks for process automation 1/2

Automate what ?



First time right?
Customer Dedicated Stock
in Europe

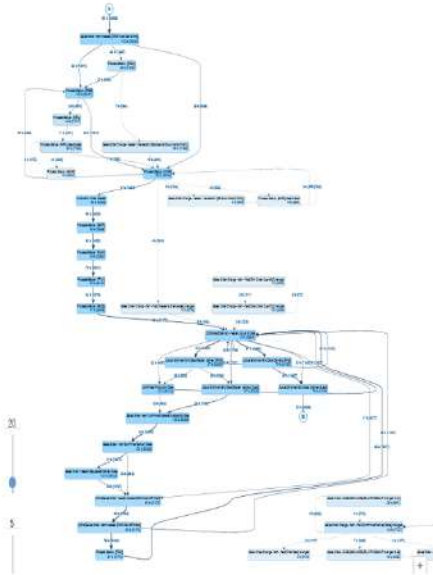


Identifying bottlenecks for process automation 2/2

Design better processes for deviations or get rid of them?

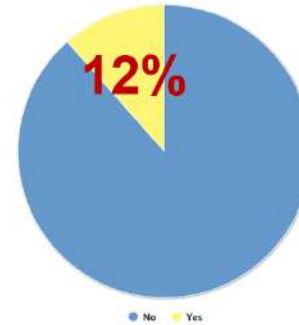
What does that mean for customer experience?

Which customers?



First time right?
Customer Dedicated Stock
in Europe

Case Attribute: FirstTimeRight ▾



Case Count: 20993

Can I split the process so that parts can be automated?

How stable is the performance?

When does it work?

Or not?

Success?

- Conformant order lines from 40% to 80 %
- Successful mitigation of geographical handicap
- Order lines and volume: + 60%
- Headcount in supply chain remains the same

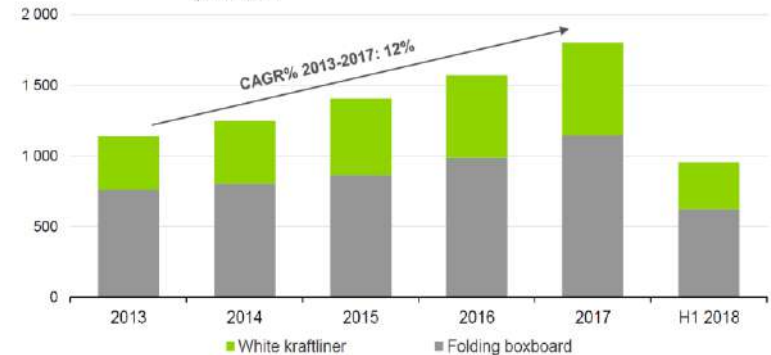
Enterprise value, € million



Metsä Board's sustainability targets



Metsä Board's paperboard deliveries
1,000 tonnes



Positive mindset change creates exponential improvements

Management

Making
decisions



Improving
processes

Everyone

“I did my best”



“Thank you for
telling me”

Future: From physical supply chain to value cycle



Design

Product idea to
package design



Core supply chain

Product from Metsä
Board mill to converter

Converting

From board to package



Distribution

Production to consumer



- Optimize time from product idea to consumer
- Utilize novel technologies to capture value cycle knowledge
- Improve collaboration capabilities
- Close to real-time operations



What was it again?

Thank you !

