

Muda of Correction/Rework

- Definition: Remanufacturing, Repairing or reworking defects
- Result: Higher costs of materials, equipment, floor space & labor.
May hide the true defect rate.

Muda of Transportation

- Definition:

Moving parts or product. Conveyance is in incidental required action.

- Result:

Increased labor costs. Adds risk of defects due to wrong moves, dropped product, etc.

Identification of Waste (MUDA)

- Seven types of waste:
 - Muda of **W**aiting
 - Muda of **O**verproduction
 - Muda of **R**ework
 - Muda of **M**otion
 - Muda of **P**rocessing
 - Muda of **I**nventory
 - Muda of **T**ransportation

To eliminate waste it must first be identified

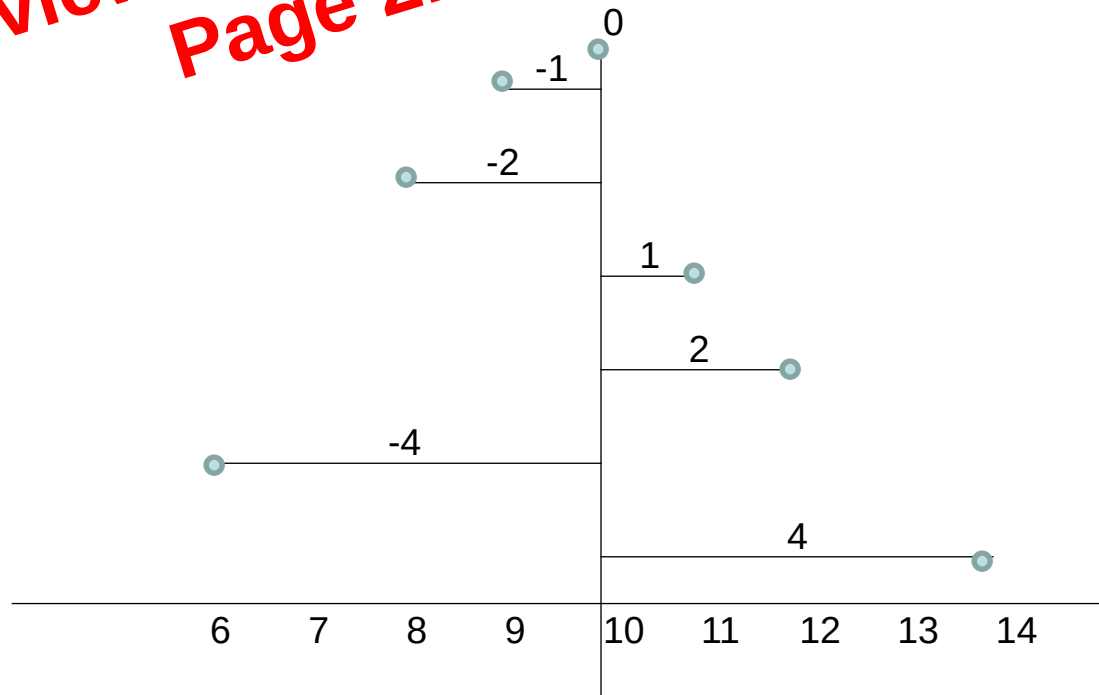
Calculating Variance – an example

Preview from Notesale.co.uk
Page 20 of 77

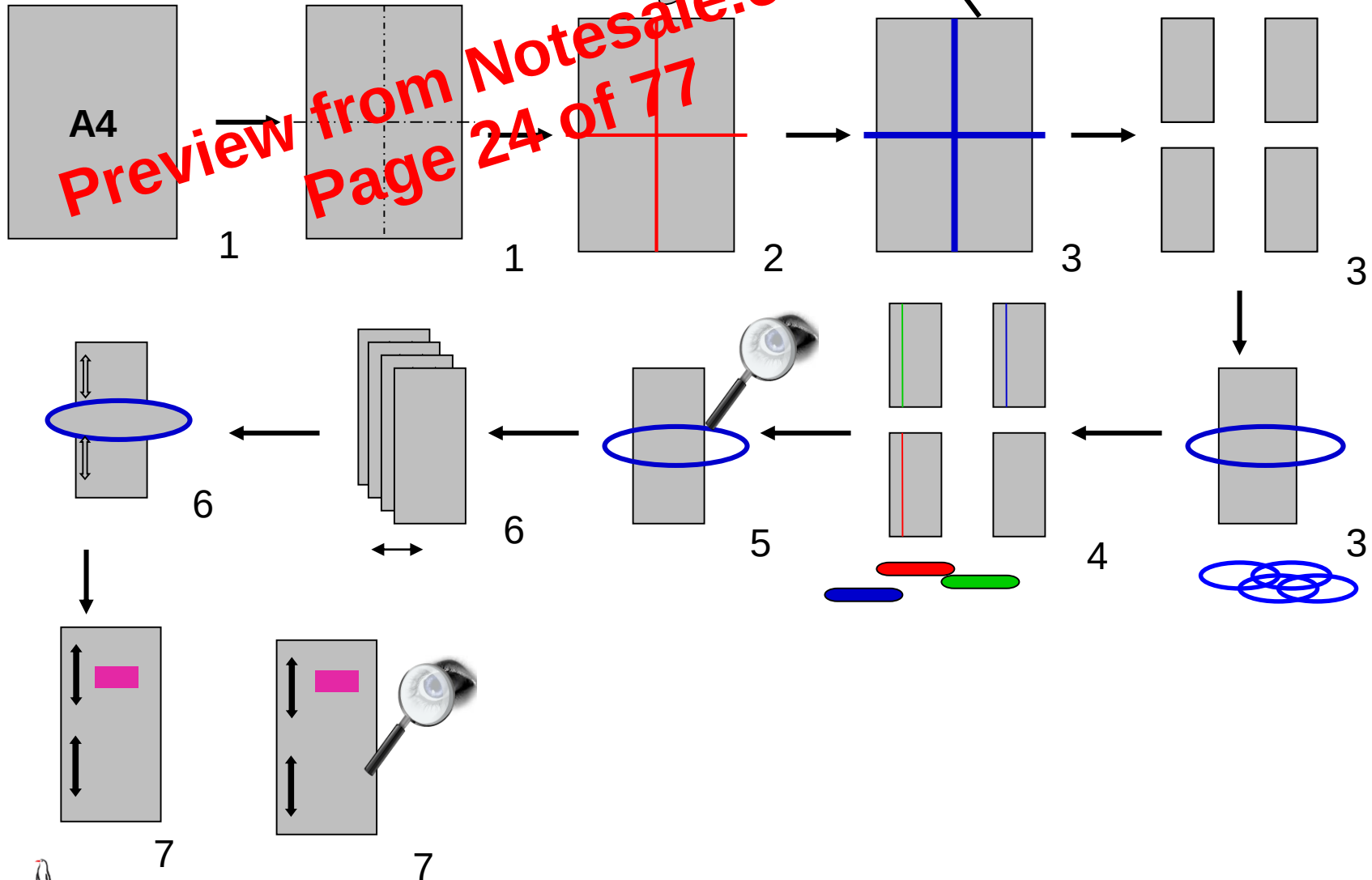
	X_i	$X_i - \bar{X}$
1	10	0
2	9	-1
3	8	-2
4	11	1
5	12	2
6	6	-4
7	14	4
Σ	70	
n	7	
$\bar{X}$	10	

Calculating Variance – an example

Preview from Notesale.co.uk
Page 21 of 77



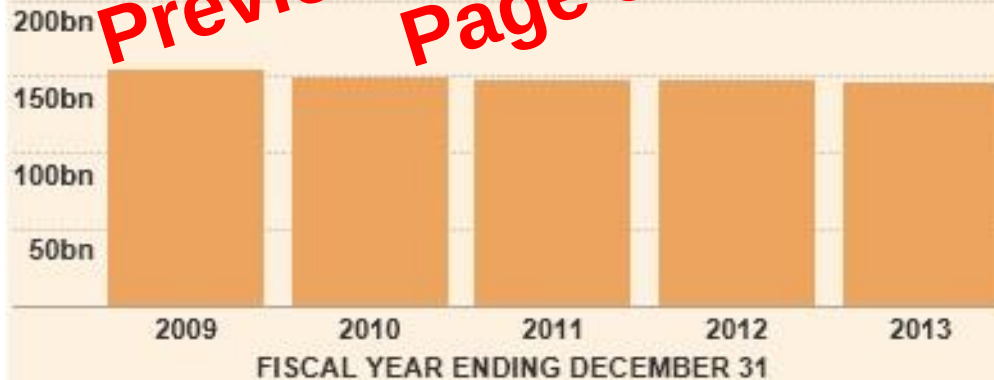
Preview from Notesale.co.uk
Page 24 of 77



GE – General Electric

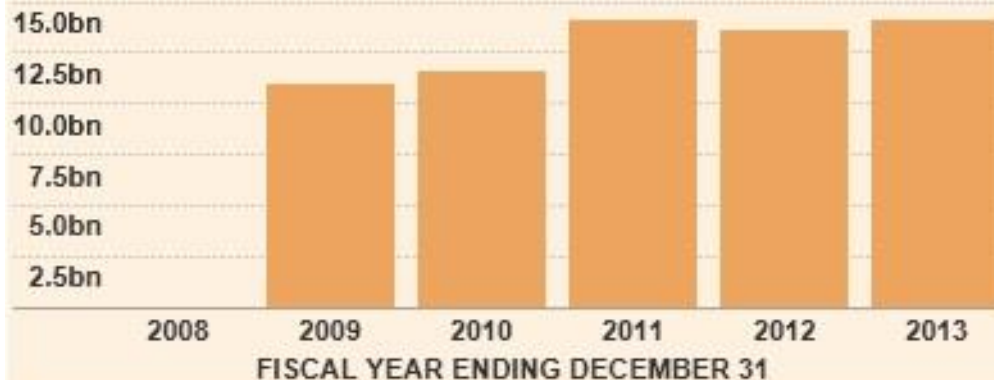
Year on year General Electric Co grew net income 3.99% to 13.6410bn to 14.0550bn despite relatively flat revenue growth. [View full income statement](#)

REVENUE



Gross margin	23.12%
Net profit margin	10.60%
Operating margin	17.99%

NET INCOME



Return on assets	2.31%
Return on equity	11.93%
Return on investment	2.56%

Scoping

Scoping is executed where the Specific Business Problem is too broad

Scoping Tools

Qualitative Tools -

Affinity Diagram

Tree Diagram

Fish bone Diagram (Cause & Effect Diagram)

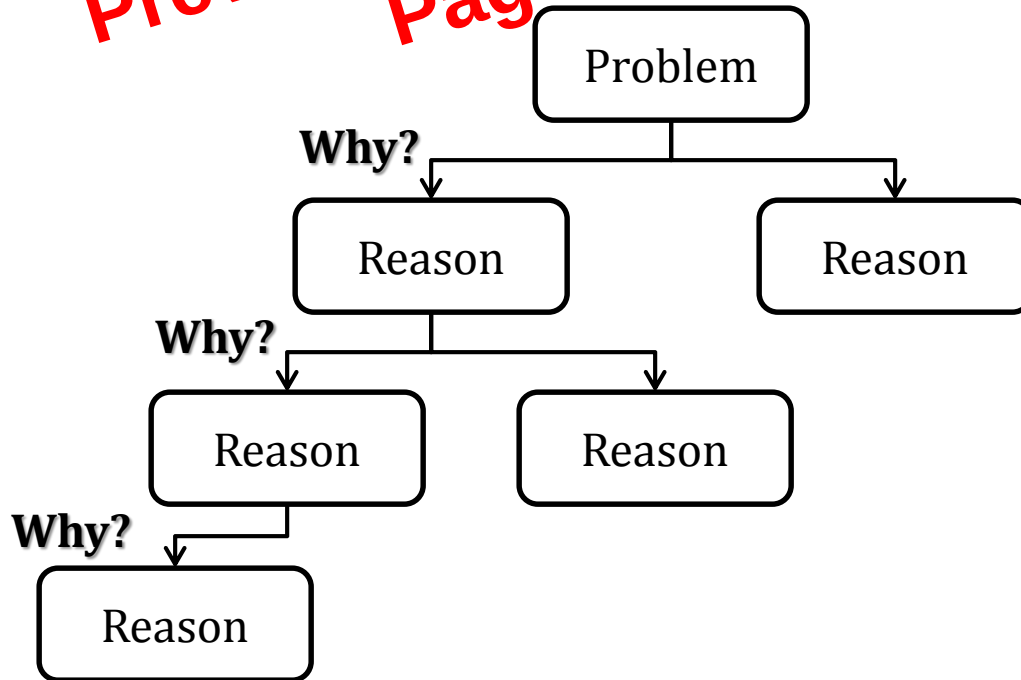
Quantitative Tools -

Pareto Chart

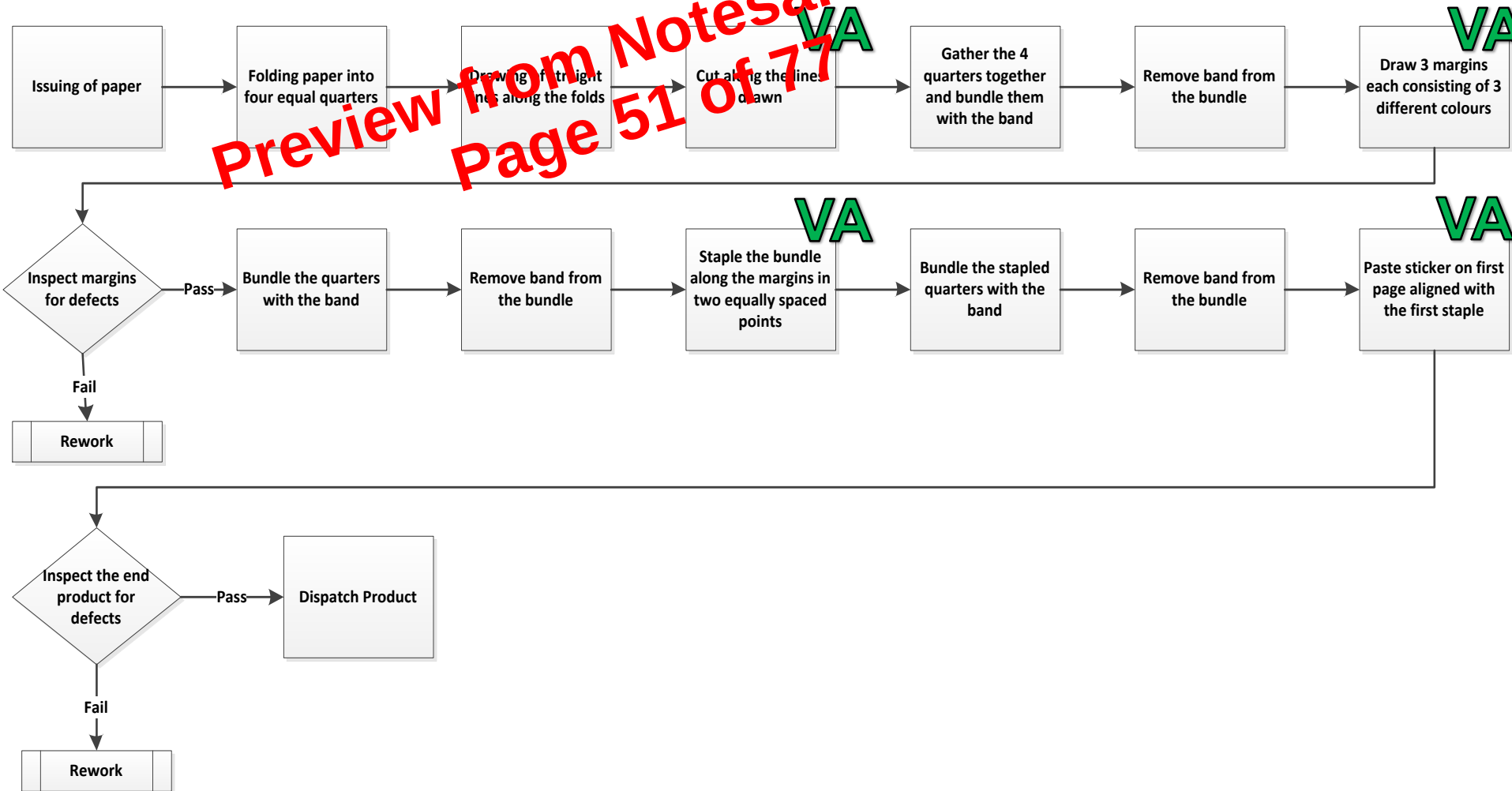
Tree Diagram

Tree Diagram

Identifying root causes by asking the question “Why”, until the problem is converted in to actionable points

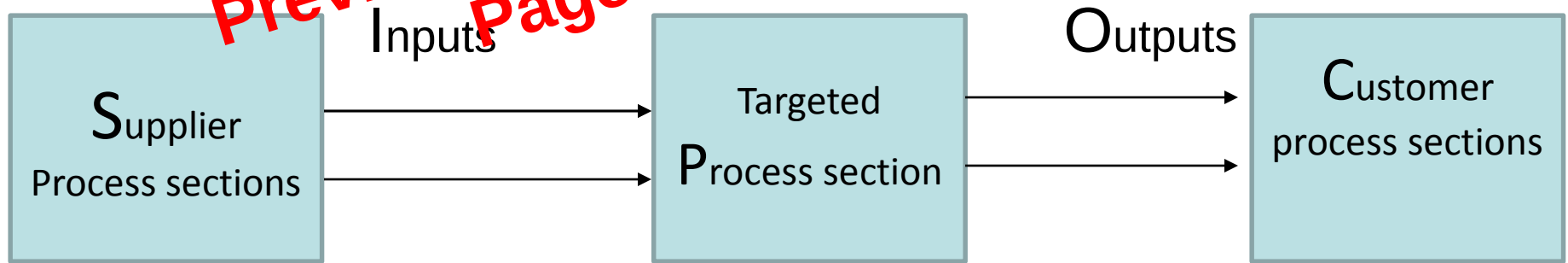


VA / NVA ?



SIPOC

Preview from Notesale.co.uk
Page 53 of 77



Preview from Notesale.co.uk
Page 70 of 77

Process Function	Potential Failure Mode	Potential Effects	S (severity rating)	Potential Cause(s)	O (occurrence rating)	Current Process Controls	D (detection rating)
The highest value process steps from the C&E matrix.	In what ways might the process potentially fail to meet the process requirements and/or design intent?	What is the effect of each failure mode on the outputs and/or customer requirements?	How Severe is the effect to the customer ? 0 – Lowest 10 - Highest	Describe in terms of something that can be corrected or controlled. i.e., root causes.	How often does the cause or failure mode occur?	What are the existing controls and procedures, that either prevent failure mode from occurring or detect the failure should it occur?	How well can you detect cause or Failure Mode? 10 - Lowest 0 - Highest