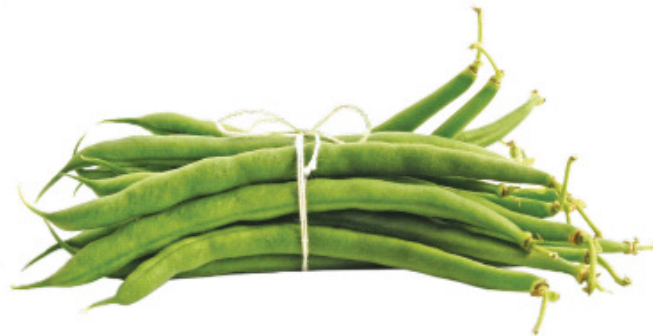


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7 Deadly Wastes



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Rowan Wallace

Outline

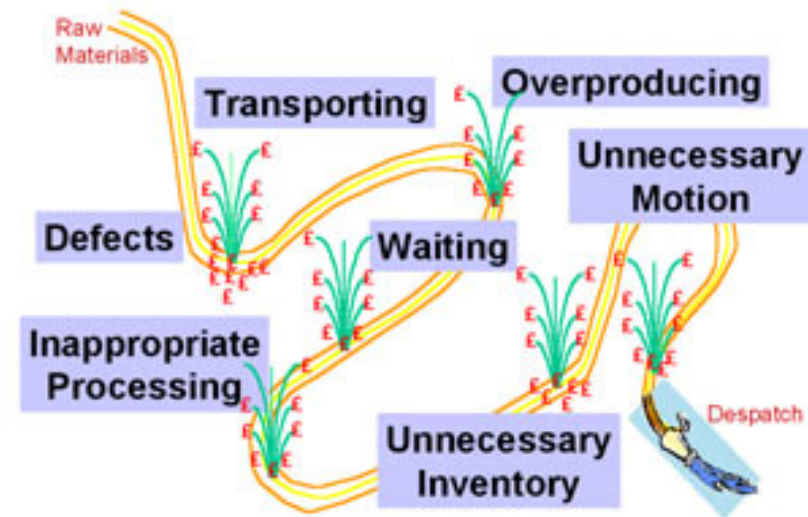
- > Identify the Seven Deadly Wastes
- > Prioritising Waste
- > Action Plan to eliminate waste
- > Using Netbox Blue to eliminate waste caused by the internet
- > Light lunch

Overview

- > Processes either add 'value' or 'waste'
- > Waste can account for **up to 30%** of the operating costs of an organisation.
- > To combat the impact of this waste, most businesses will devote more and more energy to increasing sales, however pushing more business through an inefficient system makes no sense.
- > Toyota, the Japanese automobile manufacturer, after years of work to remove waste from their business, identified seven common areas of waste.

Waste Categories

- > 1. Overproduction
- > 2. Waiting
- > 3. Transporting
- > 4. Inappropriate Processing
- > 5. Unnecessary Inventory
- > 6. Unnecessary Motions
- > 7. Defects



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1. Overproduction

- > Overproduction exists when a business produces more than needed or before the product is required. It is the result of producing 'Just in Case' rather than 'Just in Time'.

1. Overproduction

- > Example – Over servicing
- > Average number of unrecoverable Hrs per Job = 0.5hrs
- > Average Cost per Hr = \$35.00
- > Average Number of jobs per person p.a = 200
- > Assume 40 staff = \$140,000 Waste in Overproduction

1. Overproduction

- > **Example – Manufacturing**

- > Producing product with no guarantee of a sale
- > Overstaffing
- > Product range

- > **Example – Service**

- > Producing more services than required by the client
- > Quoting/proposals (frequency – not price)
- > Over designing

- > **Example – Wholesale/ Retail**

- > Over-purchasing goods
- > Working overtime

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Exercise: Waste in Overproduction

Exercise

- > Spend 5-10 minutes listing financial wastes in your organization due to overproduction.
- > When you have finished explain the identified wastes to the person next to you.



2. Waiting

- > Waiting occurs whenever time is not being used efficiently. It includes the lead time of each step within a process.
- > This usually is because the material flow may be poor, the production run too long or the distances between work centres are too great. It is not unusual for a product/service to spend 99% of it's time waiting.

2. Waiting

- > Example – reduction in average debtor days and impact on cash flow \$

Debtor Days	Cash Flow \$
90	-214,415
60	11,624
30	236,762
15	349,331

2. Waiting

- > **Example – Manufacturing**
- > Machine repair
- > For subcontractors

- > **Example – Service**
- > Client response to queries
- > For a management decision

- > **Example – Wholesale/ Retail**
- > Stock supply lead time
- > Customer waiting for goods

3. Transporting

- > Customers do not want to pay for the cost of transport between steps in the production process (e.g. transporting a car to a different factory for painting).
- > This is a clear source of non-valued cost. More than this, every transport event is an opportunity for damage or loss to occur and quality to deteriorate.

3. Transporting

- > **Example – Manufacturing**
- > Excessive material handling
- > Multiple delivery locations

- > **Example – Service**
- > Travel to clients
- > Use of couriers

- > **Example – Wholesale/ Retail**
- > Too Many suppliers
- > Warehouse layout

4. Inappropriate Processing

- > This type of waste can be easily explained with the analogy, 'using a sledge hammer to crack a egg'.
- > Are you using the right tool/process for the job?
- > Are you using big expensive high precision equipment when simpler tools would suffice?
- > Are you using the right person for the job?



4. Inappropriate Processing

- > Example – Inappropriate Delegation
- > Avg Hrs per day performing duties which could be delegated = 1hr
- > Performers average cost per hr \$45
- > Delegates average cost per hr \$25
- > Average waste per person per hr \$20
- > Waste p.a based on 55 staff and 282 work days = \$310,200.00

4. Inappropriate Processing

- > Example – Waste in Internet use to reflect opportunity cost.
- > Avg hrs per day unproductive due to misuse of internet = 15 mins
- > Average charge rate p.h = \$100
- > Waste p.a based on 55 staff and 282 work days = \$232,650

4. Inappropriate Processing

- > **Example – Manufacturing**
- > Wrong machine for the job
- > Lack of documented systems and procedures

- > **Example – Service**
- > Wrong person for the job (experience level, skill)
- > Emails rather than talking

- > **Example – Wholesale/ Retail**
- > Use of Information Technology
- > Sales staff doing admin

Exercise: Waste due to Inappropriate Processing

Exercise

- > Spend 5-10 minutes listing financial wastes in your organization due to inappropriate processing.
- > When you have finished explain the identified wastes to the person next to you.



5. Unnecessary Inventory

- > Work in Progress (WIP) is unnecessary inventory and is a direct result of overproduction and/or waiting.
- > Reducing WIP allows the real problems within a process to surface. Think of the analogy, 'a ship sailing along on a sea of WIP hides the rocks below the water'.
- > By lowering the water level of the sea of WIP, slowly the problems will surface and can be addressed.



5. Unnecessary Inventory

- > Example – reduction in average Inventory days and impact on cash flow \$

Inventory Days	Cash Flow \$
185	259,108
90	597,139
60	703,547
40	774,486

5. Unnecessary Inventory

- > **Example – Manufacturing**
- > Raw material, WIP, Finished Goods
- > Product range

- > **Example – Service**
- > Work in progress
- > Too many services

- > **Example – Wholesale/ Retail**
- > Working capital (opportunity cost)
- > Pallets, finished goods

Exercise: Waste due to Unnecessary Inventory

Exercise

- > Spend 5-10 minutes listing financial wastes in your organization due to unnecessary inventory.
- > When you have finished explain the identified wastes to the person next to you.



6. Unnecessary Motion

- > Unnecessary motion relates predominantly to ergonomics and is seen in all instances of bending, stretching and reaching.
- > For example, how much time could be saved if staff had a printer on their desk and didn't need to walk to a printer?
- > What is this possible increase in efficiency worth to your business?

6. Unnecessary Motion

- > **Example – Manufacturing**
- > Production line
- > Factory layout

- > **Example – Service**
- > Stop/start mentality
- > Access to information via IT rather than manually researching

- > **Example – Wholesale/ Retail**
- > Picking up a piece of paper and not actioning it
- > Stock picking

7. Defects

- > Defects will cost money either now or later and their costs come direct from the bottom line.
- > They can be internal defects found before sale such as the costs of scrap, rework and delays.
- > They can also be defects identified once the product or service has been delivered and include warranty claims, onsite repairs and potential loss of a customer.
- > As a rule of thumb, the cost of a defect increases tenfold for each step in a production or supply chain.

7. Defects

- > Example – waste in rework
 - > Average hrs per day performing non-recoverable rework = 0.5hrs
 - > Average cost per person per hr = \$35
 - > Assume 55 staff at 282 days p.a = \$271,425
- Waste in Rework

7. Defects/Rework

- > **Example – Manufacturing**
- > Scrap – trim
- > Computer input errors – misread orders

- > **Example – Service**
- > Poor instructions
- > Missing deadlines

- > **Example – Wholesale/ Retail**
- > Returned stock (measured by credit notes)
- > Poor quality of purchased products

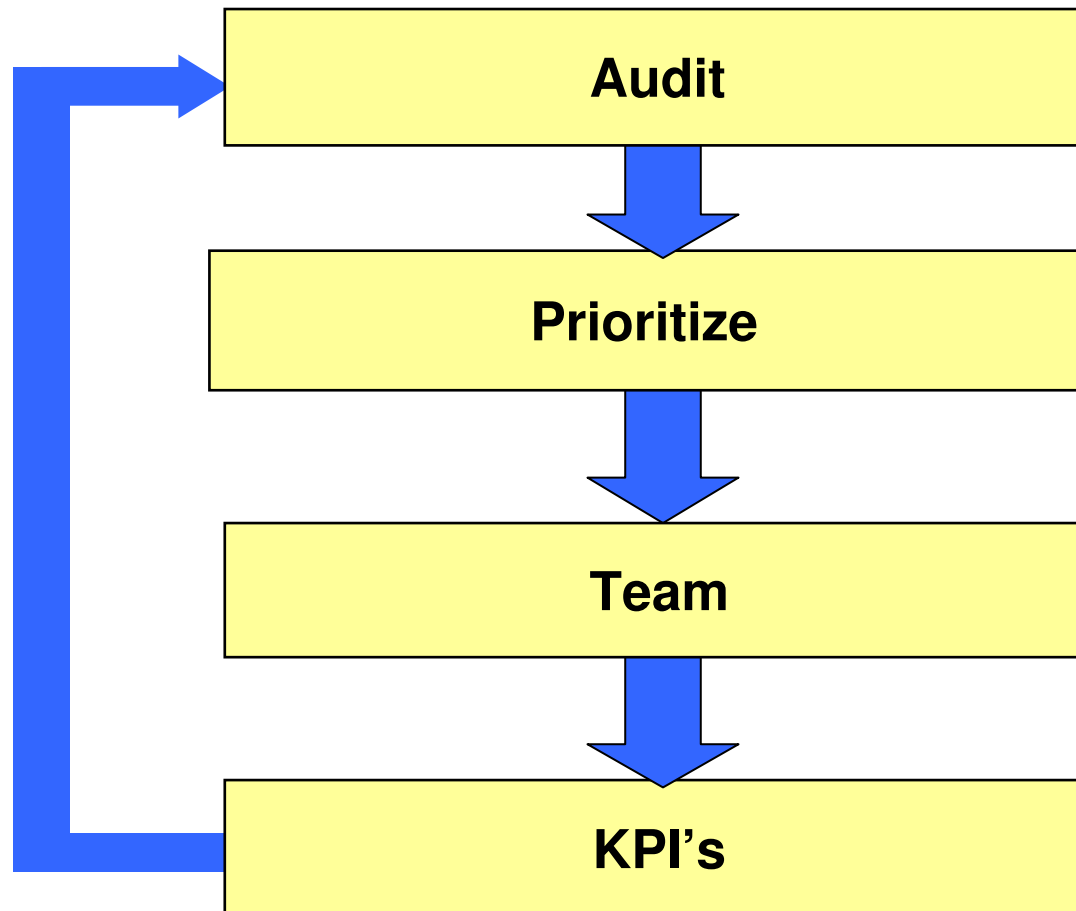
Exercise: Waste due to Defects

Exercise

- > Spend 5-10 minutes listing financial wastes in your organization due to defects.
- > When you have finished explain the identified wastes to the person next to you.



So Where Do I Start?



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WASTE AUDIT

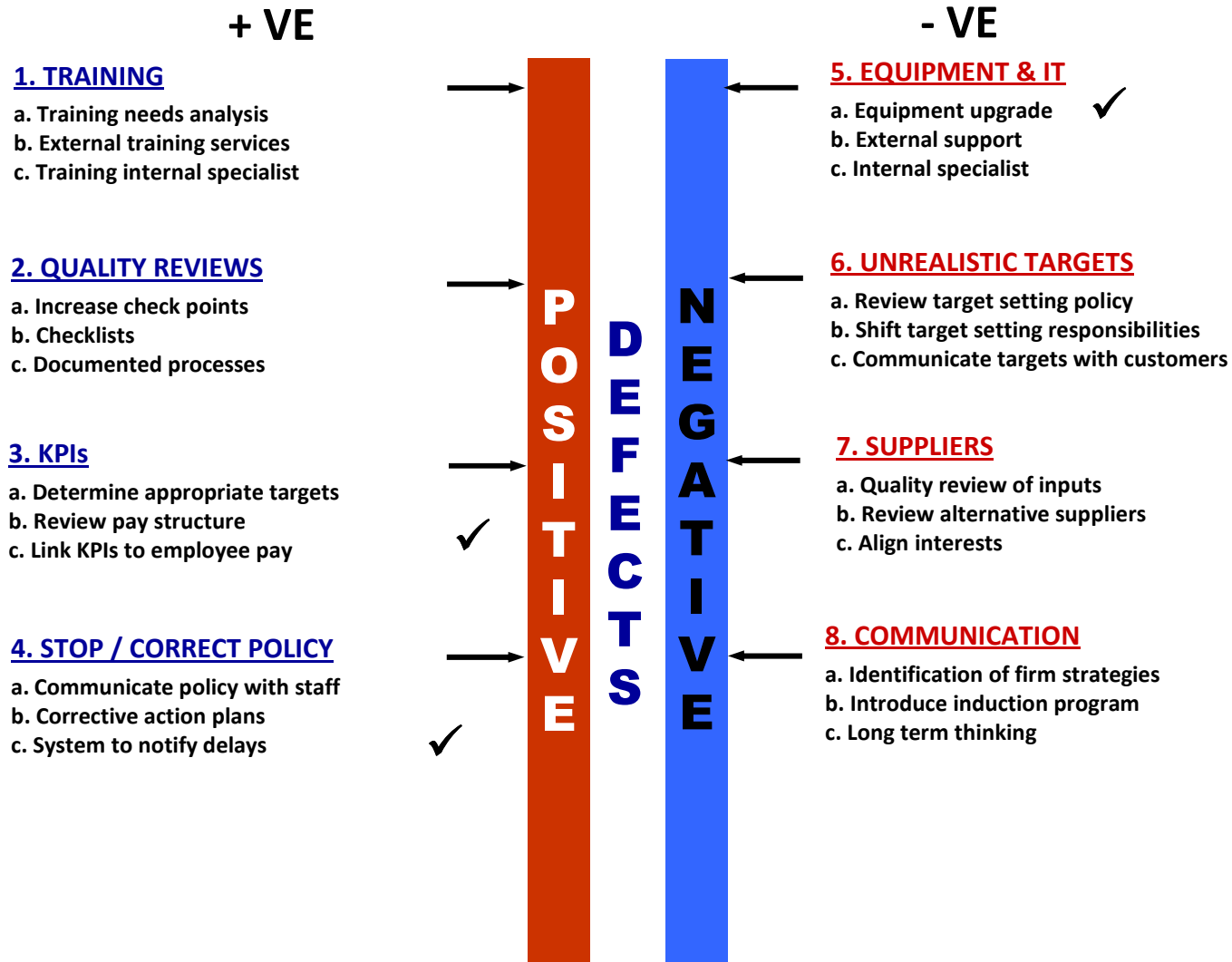
AREA	COST \$	EASE OF REMOVAL		
		Lo -5	Av 0	Hi +5
Overproduction				
Duplication	34,000	--X--	---0--	---
Producing without guarantee of sales	18,000	---X--	---0--	---
Errors	15,000	---	--X-0--	---
Waiting				
Waiting time – work in progress	28,000	--X--	---0--	---
Freight	14,000	---	--X-0--	---
Storage	9,000	---	--X--	---
Transport				
Stock Layout	10,000	---	--X--	---
Sub Contracting	45,000	X--	---0--	---
Travel	5,000	---	---0--X--	---
Inappropriate Processing				
Senior partners doing work juniors could do	17,000	---	--X--	---0--
Wrong equipment	8,000	---	--X--	---
Laser prints for draft copies	9,000	---	--X--	---
Inventory				
Raw material	17,000	---	--X--	---0--
Old Stock	12,000	---	--X--	---0--
Product range	55,000	X--	---0--	---
Motion				
Factory Layout	16,000	---	--X--	---0--
Desk Layout	6,000	---	---0--X--	---
Hand movements	13,000	---	--X-0--	---
Defects				
Re work	12,000	---	--X--	---0--
Production faults	16,000	---	--X--	---0--
Errors	22,000	--X--	---0--	---
Total \$	381,000			

Prioritize



It is essential that the waste issue prioritization be repeated at regular times, as frequent as every six months

FORCE FIELD



- 3 Key actions to address key issue**
1. Link KPIs to employee pay
 2. System to notify delays
 3. Equipment upgrade

NOW	<p align="center">COMPANY XYZ DEFECTS PLAN</p> <p align="center">Date Revised: 16TH April 2009</p>	WHERE	
<ul style="list-style-type: none"> 0.5 avg hrs per day performing rework 		<ul style="list-style-type: none"> Avg hrs per day performing rework to be reduced: <ul style="list-style-type: none"> 3mths = 0.3 hrs 6mths = 0.1hrs 	
STRATEGIES	ACTION PLANS	TIMING - Who & When By	
<p>KPIS</p>	<ul style="list-style-type: none"> a. Determine appropriate targets b. Review pay structure c. Link KPIs to employee pay 	<ul style="list-style-type: none"> 1. MP 2. JS 	<ul style="list-style-type: none"> Immediate January
<p>STOP CORRECT POLICY</p>	<ul style="list-style-type: none"> a. Communicate policy with staff b. Corrective action plans c. System to notify delays 	<ul style="list-style-type: none"> 1. JS 2. JS 	<ul style="list-style-type: none"> December December
<p>EQUIPMENT & IT</p>	<ul style="list-style-type: none"> a. Equipment upgrade b. External support 	<ul style="list-style-type: none"> 1. BM 2. JS 	<ul style="list-style-type: none"> January February

TO MAXIMISE THE RESULT

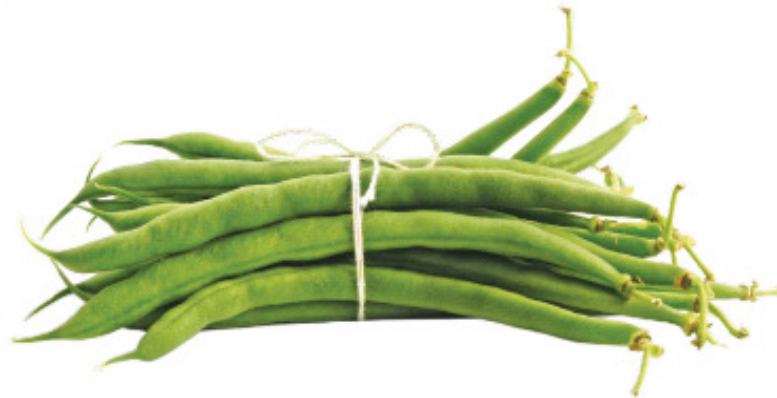
- > **UHYHN Facilitator** – to drive the implementation of your Waste Audit
- > This includes:
 - Team workshops
 - Individual assignments
 - Continuous coaching
 - Progress monitoring



Disclaimer

- > **Please do not rely on the information or calculations within this presentation without first seeking specialist advice based on your specific circumstances.**
- > **Many assumptions have been made within the calculations that are not detailed within this document.**
- > **It is important that the principles detailed within this presentation are applied to your specific circumstances before they can be relied on.**
- > **We accept no responsibility for any loss suffered as a result of relying on the information within this presentation.**

UHY Haines Norton
Chartered Accountants



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