



What is Efficiency in Waste management

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What is efficiency?



- Removal of cost that does not add to value – waste
- Who's value?
- How measured?
- How will we know when we've got it?



Waste (Muda)

- Non value adding work
 - Including failure demand
 - Redoing what was not done right first time (missed bins)
 - Catch up work (bin deliveries)
- Overburden
 - Inadequate resources to maintain required output (bin deliveries)
 - Overproduction (call centre or direct control)
- Unevenness
 - Spikes in demand (Bank Holidays/Christmas)



8 Types of Waste

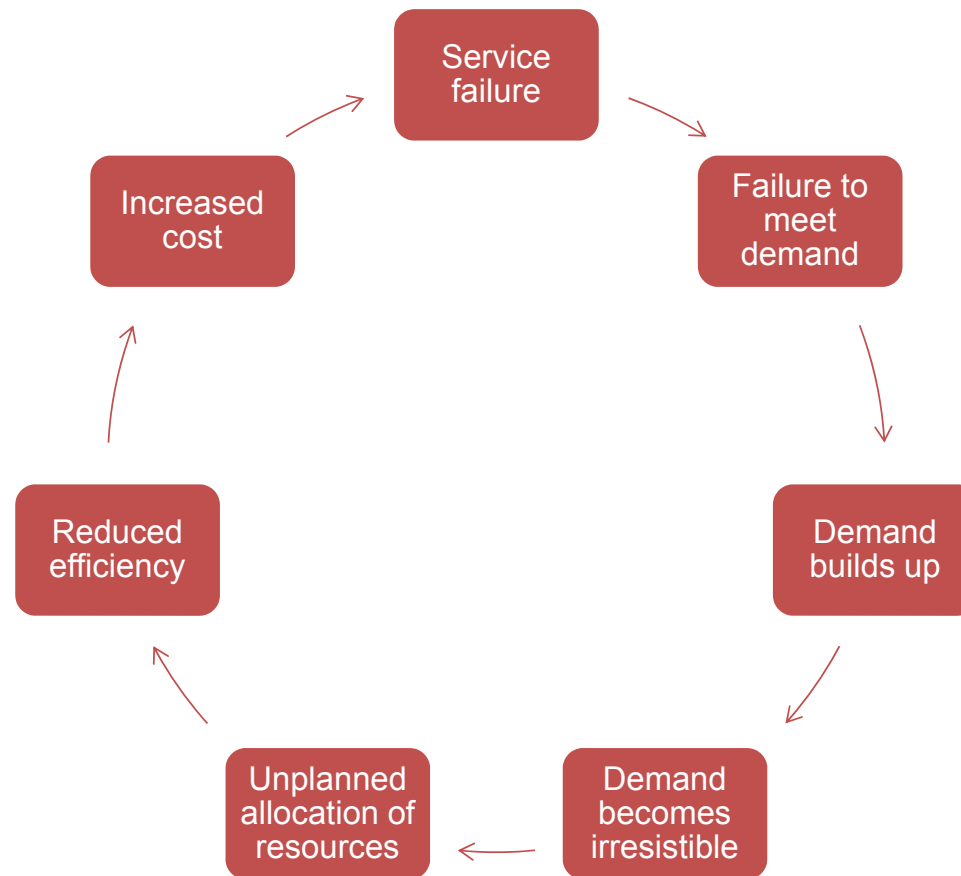
- Defective production
- Overproduction
- Waiting
- Non-used employee talent
- Transportation
- Inventory
- Motion
- Excessive processing

Identifying inefficiency (waste) from evidence



- Failure demand
- Inventory
- Transportation and motion
- Excessive processing

Service failure or service reduction: Cause and Effect



What do we mean by demand?



- What we are expected to do
 - Empty bins?
 - Recycle waste?
 - To reassure people we care?
 - Public health protection?
 - Ensuring bins are empty?
 - Dealing with waste effectively?
 - Economic development?
 - Maintaining amenity value

Understanding demand



- Where does service demand come from?
- What's the balance between planned and reactive service?
- How much demand is failure demand?
- How does demand relate to demand for other related services?

Where does demand come from?

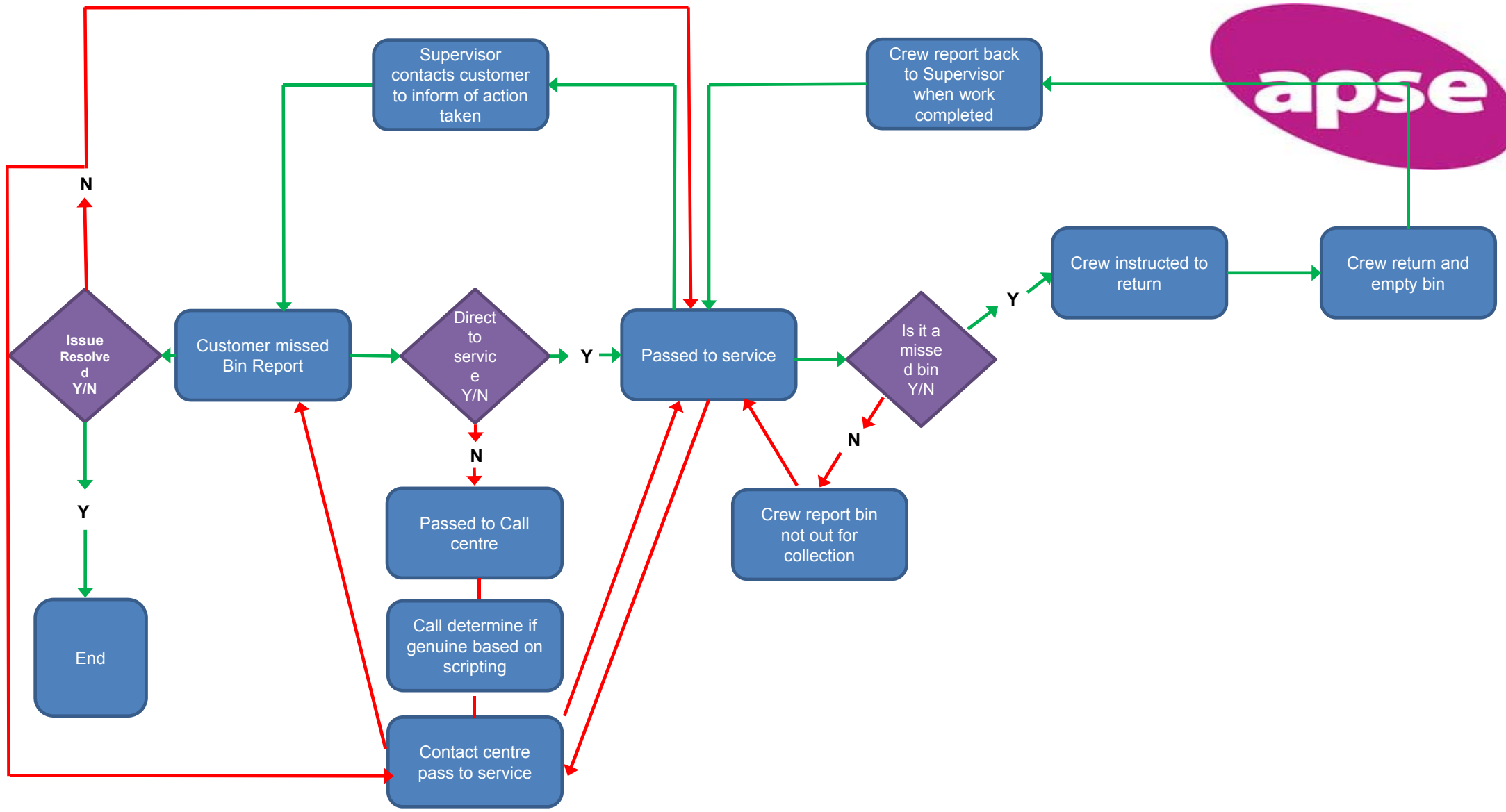


- The customer?
 - But who is the customer?
- Local people?
 - But which local people?
 - Local people who complain?
 - Local people who don't complain?
- Local politicians
 - Who specify (input and output) requirements
- Government
 - Who establish outcome objectives



Wasted activity

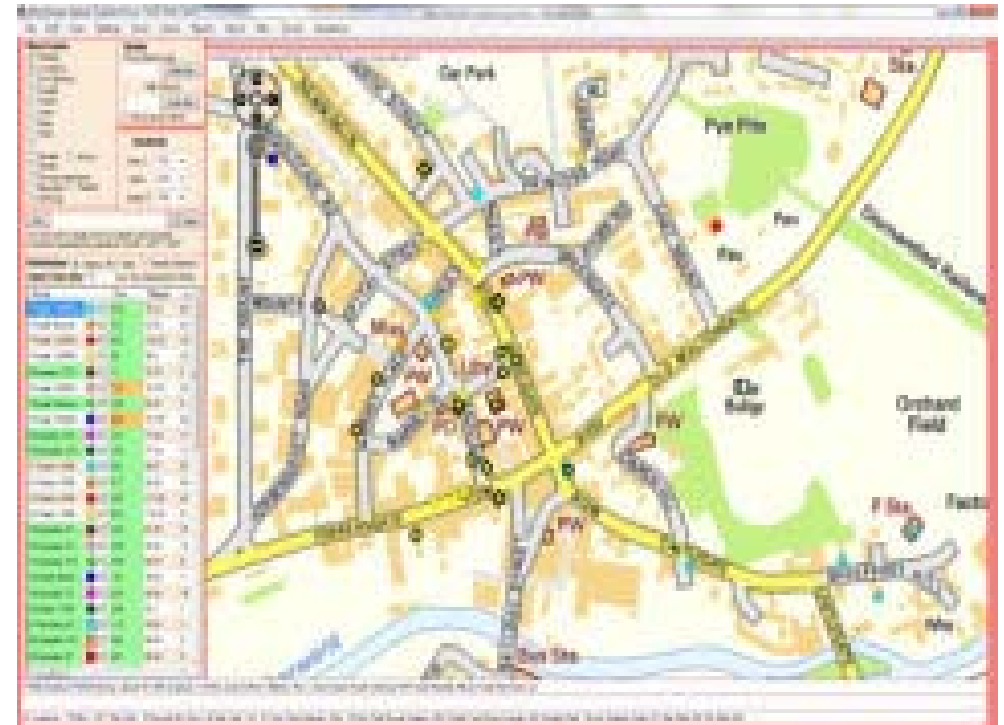
- Failure demand
 - Redoing what was not done right first time
 - Catch up repair work
- Frequency driven demand
 - Doing things that don't need doing to meet a spec
- Duplicate activity
 - Client/contractor split



Round Optimisation



- Reduce the operational costs of waste collection
- Balance workloads across crews
- Deliver effective new collection rounds that work
- Can identify fleet requirements prior to procurement
- Assist in the preparation for competitive tender
- Generate accurate performance and cost information



In Cab Technology



- Reduction in missed bins (lifts recorded on the system)
- Reduced Costs
- Simplified administration
- Increased compliance with Driver Regulations
- Greater visibility of service operations
- Improved service performance monitoring
- location data, bin records
- Record and archive past and future collections (including assisted collection status)
- A detailed history of exceptions.
- Improved communications with the crew
- Schedule additional collections
- Activate new services such as assisted collections



360 Degree Camera's

- Fewer accidents
- Zero risk of false insurance claims
- Ability to check claims of missed bins
- Increased H&S vigilance
- Full vehicle security surveillance
- Peace of mind for both managers and workers
- Your company's reputation is strengthened



Bin Level Sensors



- Real time fill level status
- Alerts for abnormal events (such as high temperature and movement)
- Predicted fill-up dates
- Statistics
- Planning tools



Looking at new ways of working underground containers



Its about shifting focus from one set of values to another



- From cleaning up after people
- From looking after their facilities

- To encouraging them to change behaviour
- To encouraging them to play a part

**Sometimes its best to try and
*increase demand***



“If a man sees a fly, he aims at it”

“Schhpillage was down by 80%...”



Changing behaviour to save cost



- Original experiment in Copenhagen reduced littering by 46%

Familiar phenomena?



What can we do about it?



Does this help?



Is this more likely to have an impact?



Whatever you are doing avoid mixed messages



Other Useful information on Nudge Theory



 **Park Life, Street Life:**
Managing demand in the public realm





Consultancy

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Interim management requirements

**Roads & Highways, Building Maintenance, Bereavement Services, Environmental,
Parks & Open Spaces, Waste, Facilities & Leisure etc.**

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