

Revenue Management (RM)



Mass Customisation
Research Centre
Nottingham University

Applying Revenue Management approaches to open-pipeline automotive order fulfilment systems

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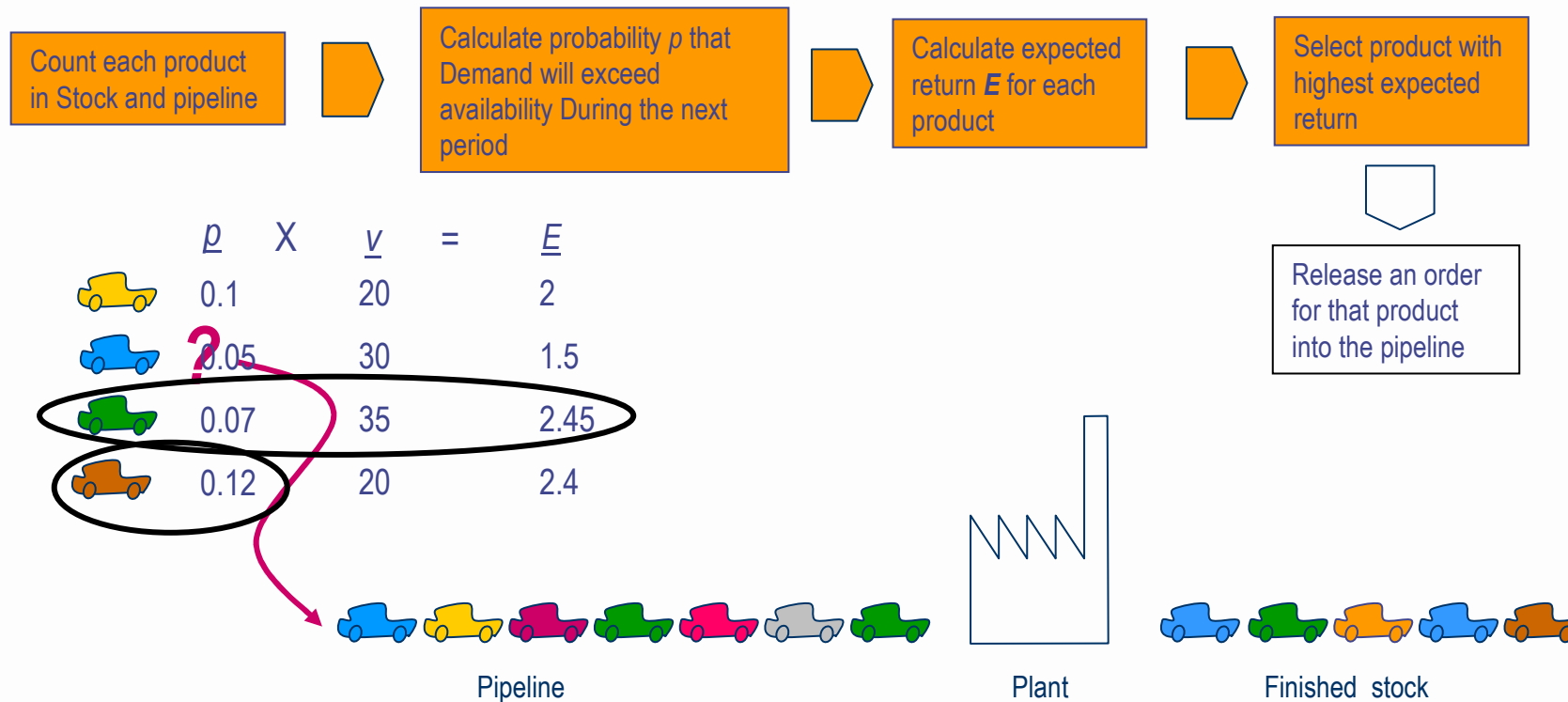


New Ideas in Order Fulfilment, Nottingham, September 2008



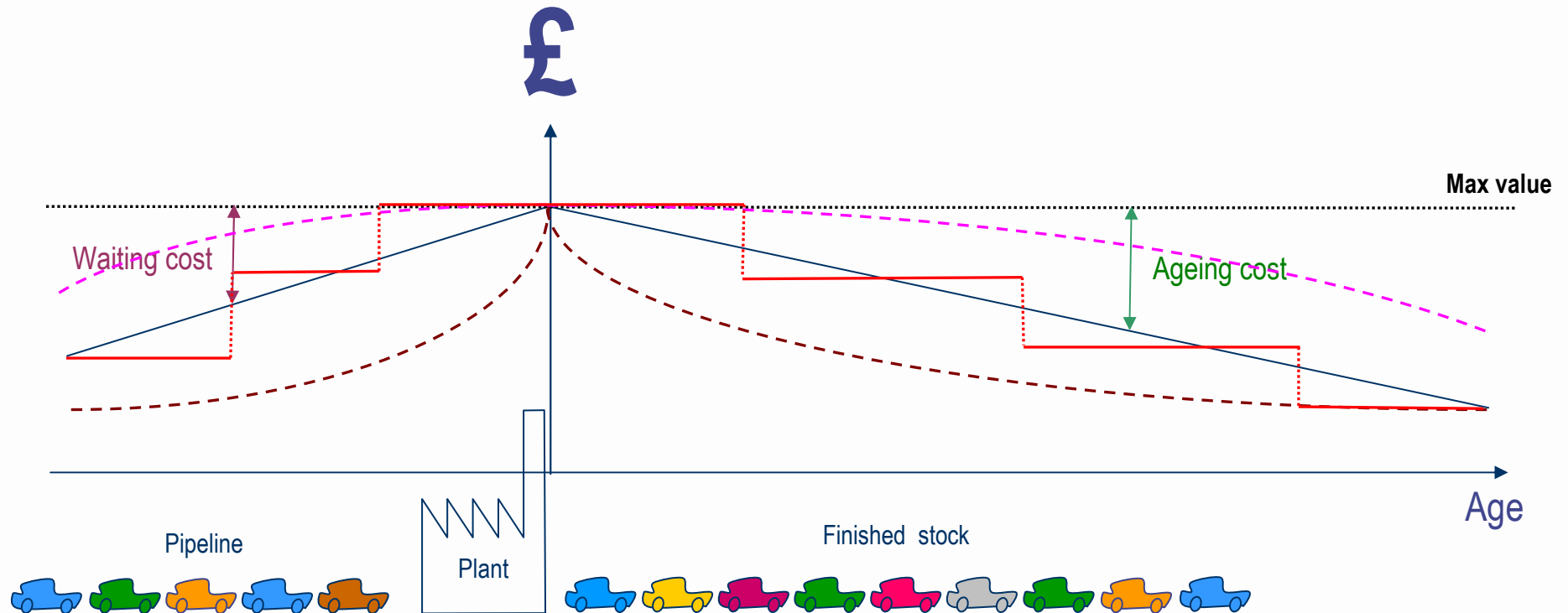
Revenue feed process

- ◆ Considers product value when deciding which product should be released into the pipeline next





Cost functions



- ◆ Value reduces with increased waiting time
- ◆ Value reduces with increasing product age
- ◆ Stock holding costs
 - Fixed cost Based on stock levels at the end of each time period

Customer segmentation



Type 1



Type 2

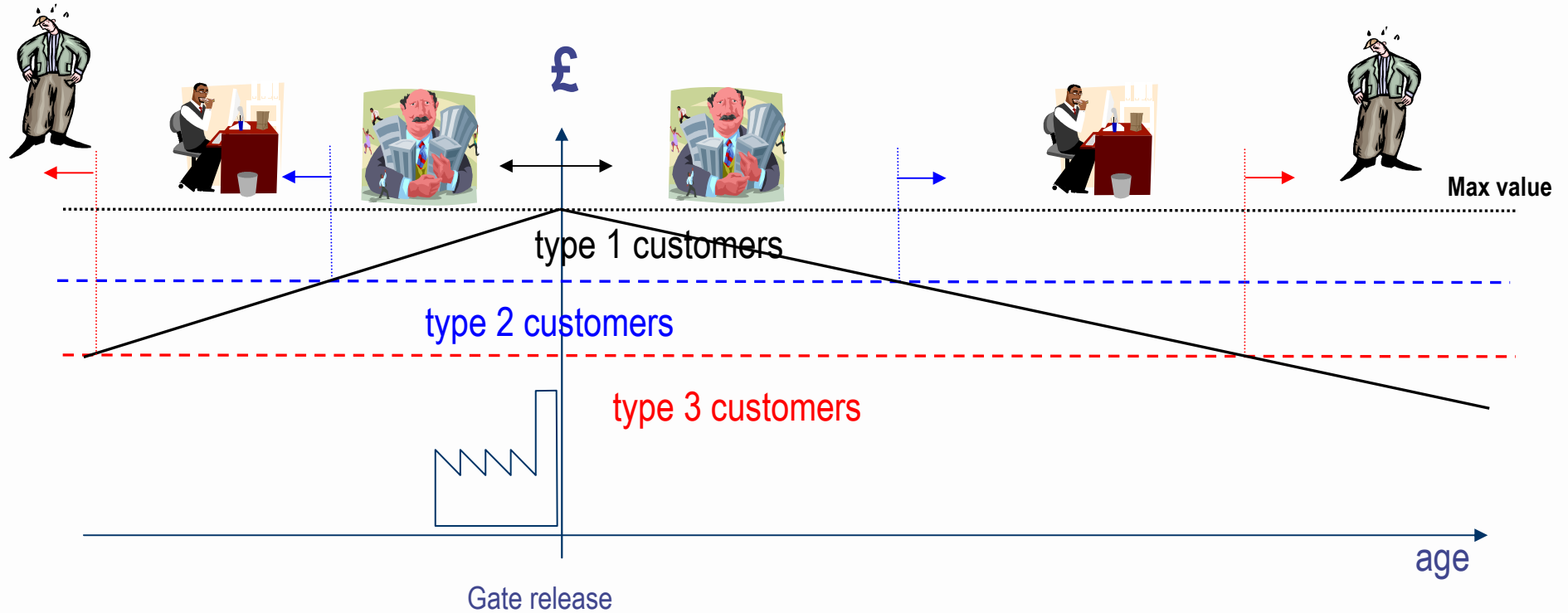


Type 3





Customer segmentation

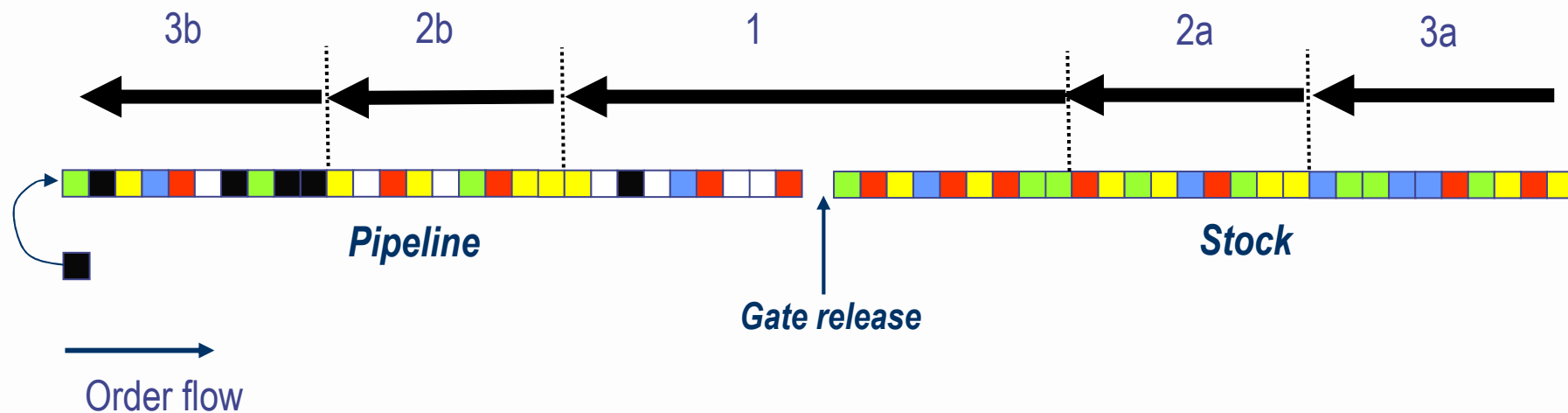




Search and allocate rules

Exact match search

- Search for a specific customer type
- Search customer's own zone first
- Then search next zone down
- BTO



Additional search and allocate rules



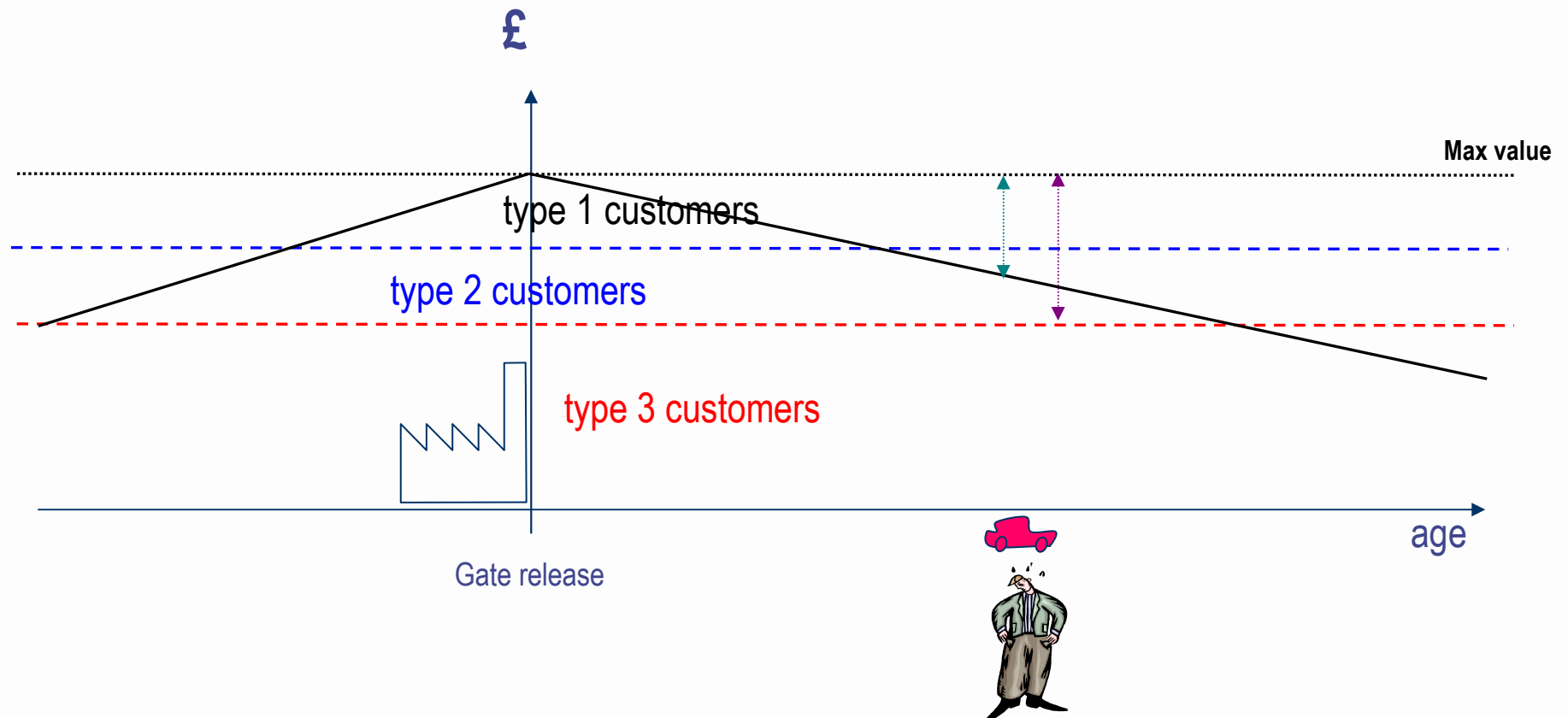
◆ Allow pipeline amendment

◆ Allow pipeline amendment and customer compromise

Customer buy-up



$$\text{Buy up probability} = \frac{\text{max value} - \text{order value}}{\text{max value} - \text{customer WTP}}$$



Summary



- ◆ Development of open pipeline order fulfilment models to incorporate cost and revenue aspect
- ◆ Implementation of RM principles
 - Capacity based approach
 - ◆ Search and allocate rules
 - Demand segmentation
 - ◆ Customer categories defined by customer WTP
 - Customer buy-up
- ◆ Search and allocate rules based on cost and revenue
- ◆ Model development and validation
 - Input from industrial partner
 - Case Study – Ford Germany
- ◆ Experimentation and analysis
 - Dissemination
 - ◆ Industrial partner
 - ◆ Academia