Walmart Chile

# Merchandising Analytics


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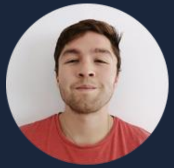

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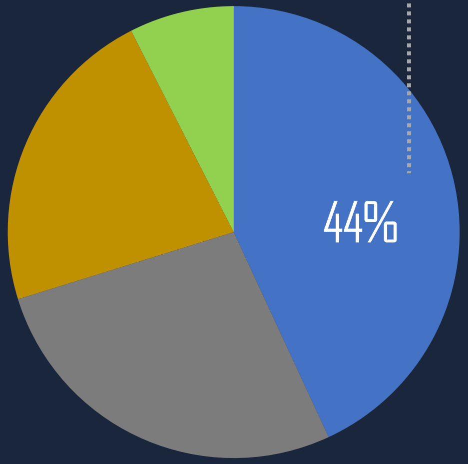


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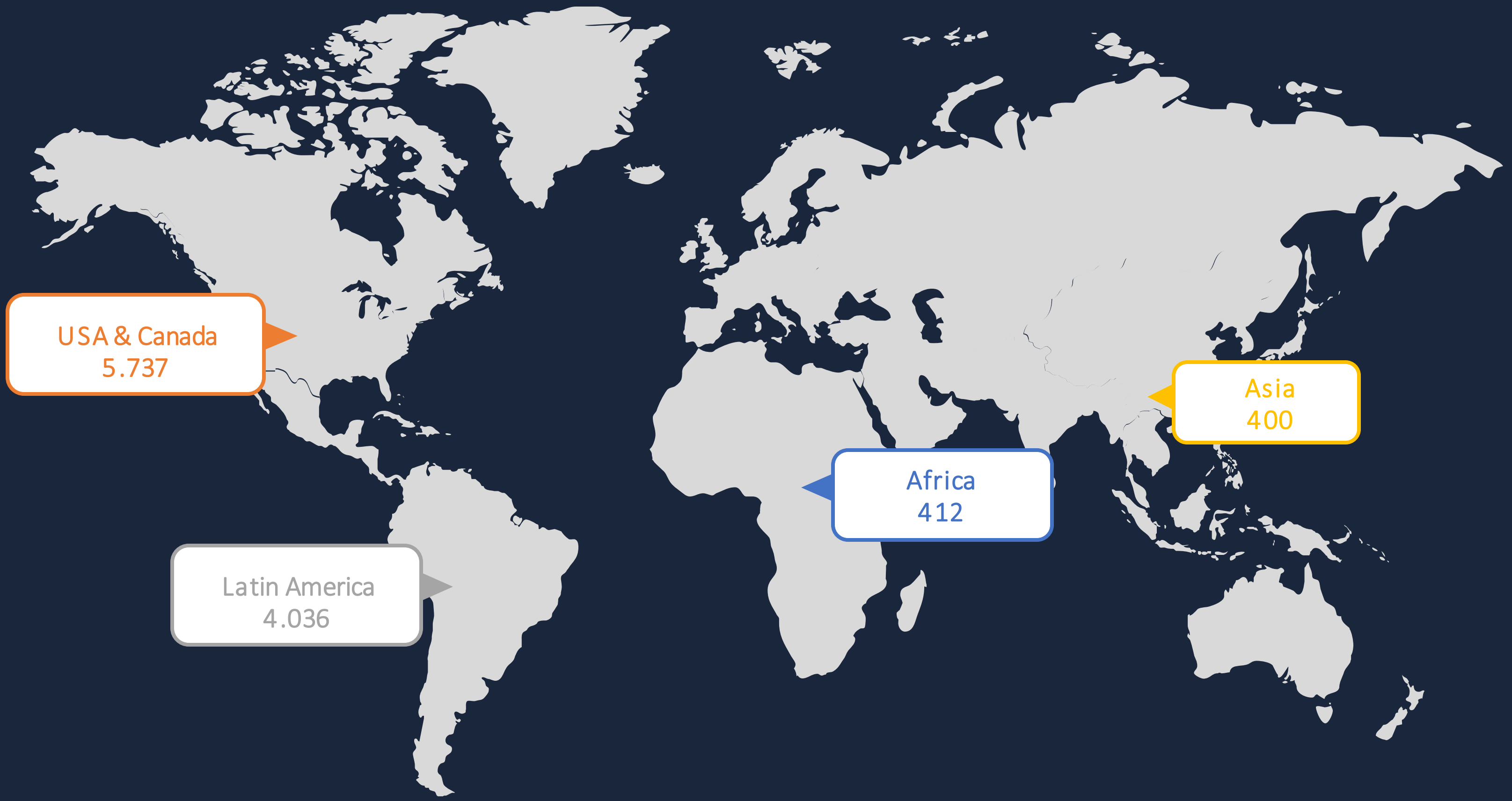
Walmart

Save money. Live better.

10.585 stores

2.3 million associates

Revenue of US$572 billions



# Pricing optimization

Optimal price
for each product
at each store.

$$\max \sum_{i \in \mathcal{I}} \sum_{t \in \mathcal{T}} (p_{i,t} - c_{i,t}) q_{i,t}$$

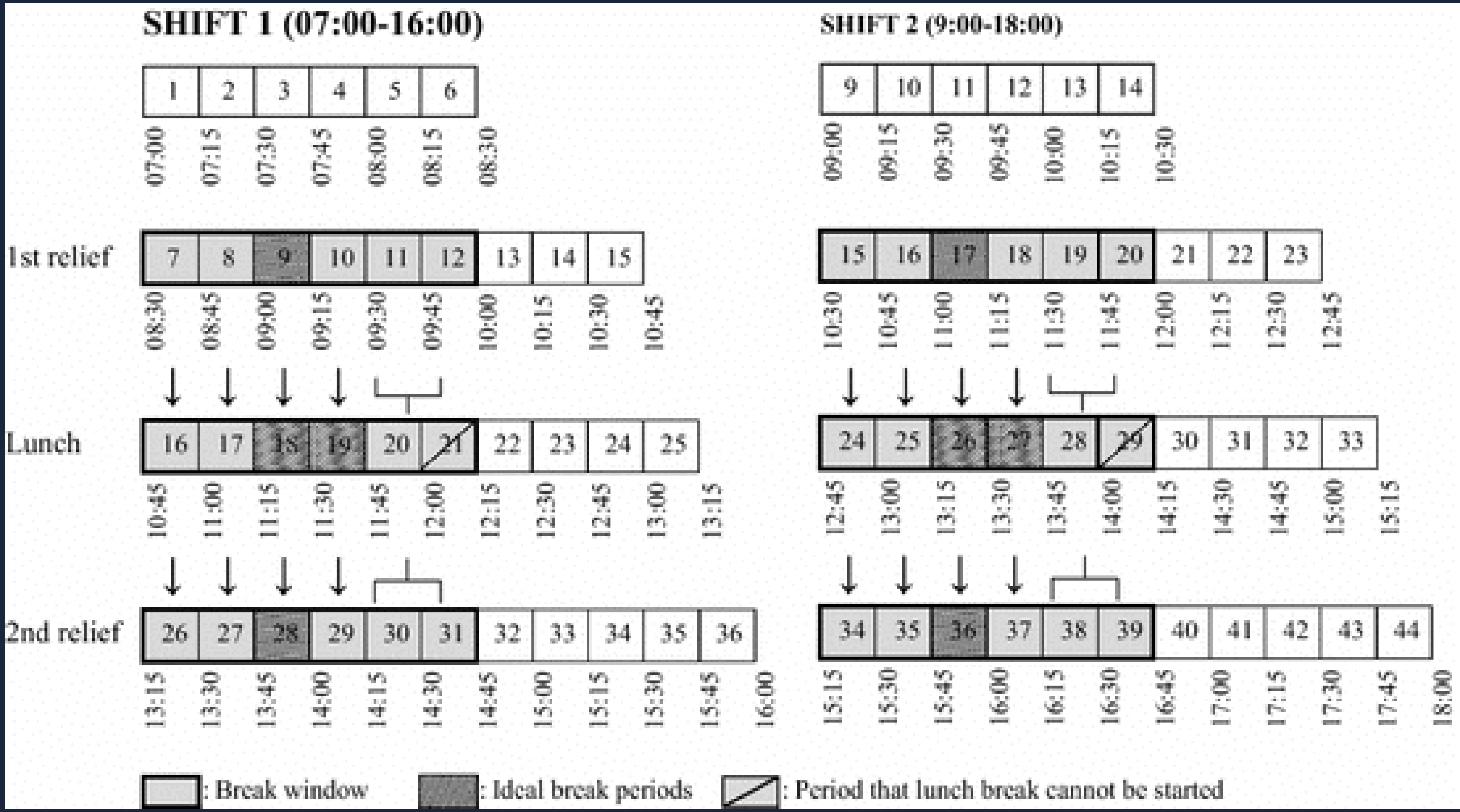
s.t.

$$
\begin{array}{llr}
(1) & \dfrac{\sum_{i \in \mathcal{I}_k} \dfrac{p_{i,t}}{cp_{i,t}} v_{i,t}}{\sum_{i \in \mathcal{I}_k} v_{i,t}} \leq pok_k & \forall k \in \mathcal{K}, t \in \mathcal{T}, \\
(2) & \dfrac{p_{i,t}}{cp_{i,t}} \leq poi_{i,t} & \forall i \in \mathcal{I}, t \in \mathcal{T}, \\
(3) & p_{i,t} = p_{j,t} + \delta^1_{i,j} & \forall (i,j) \in \mathcal{L}_p, t \in \mathcal{T}, \\
(4) & p_{i,t} = p_{j,t} \delta^2_{i,j} & \forall (i,j) \in \mathcal{L}_f, t \in \mathcal{T}, \\
(5) & p_{i,t} = p_{j,t} \delta^3_{i,j} & \forall (i,j) \in \mathcal{L}_{mp}, t \in \mathcal{T}, \\
(6) & p_{i,t} = fp_{i,t} & \forall i \in \mathcal{F}, t \in \mathcal{T}, \\
(7) & p_{i,t} \geq 1.19 c_{i,t} & \forall i \in \mathcal{I}, t \in \mathcal{T}, \\
(8) & \dfrac{op_{i,t} - p_{i,t}}{pp_{i,t}} \geq 0 & \forall i \in \mathcal{I}, t \in \mathcal{T}, \\
(9) & p_{i,t} \leq \max \left\{ \dfrac{1.19 c_{i,t}}{1 - (om_{i,t} + mg)}, pp_{i,t}(1 - mv^\flat_k) \right\} & \forall (i,t) \in \mathcal{NP}, k \in \mathcal{K}, v_{i,t} > 0, \\
(9^*) & p_{i,t} \geq \min \left\{ \dfrac{1.19 c_{i,t}}{1 - (om_{i,t} + mg)}, pp_{i,t}(1 + mv^\sharp_k) \right\} & \forall (i,t) \in \mathcal{NP}, k \in \mathcal{K}, v_{i,t} = 0,
\end{array}
$$

**Paper : Price Optimization in Fashion E-commerce**

# Shift Scheduling Problem

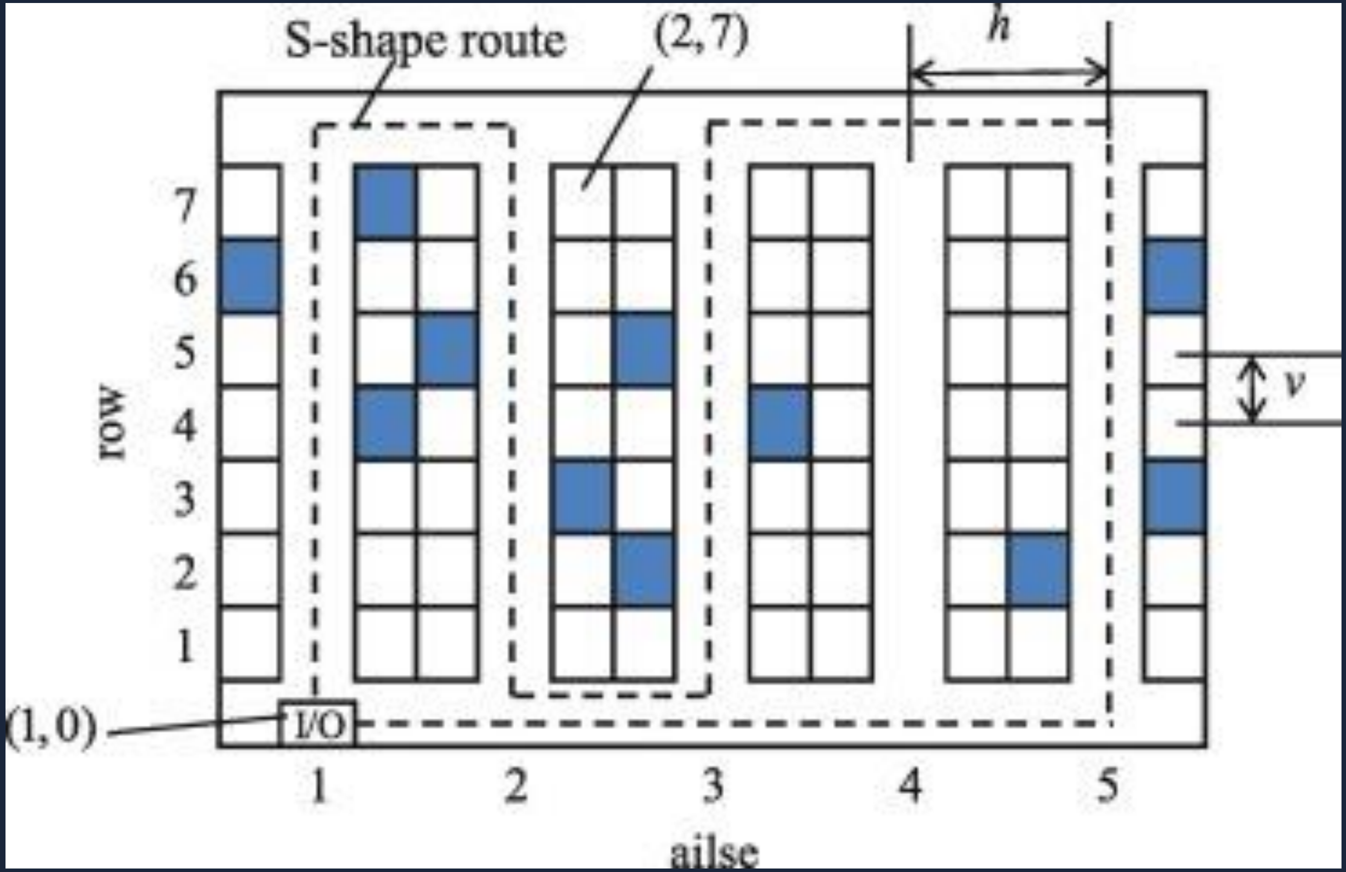
Organizations whose employees work multiple shifts need to schedule sufficient workers for each daily shift




**Paper : Labor Planning and Shift Scheduling in Retail Stores Using Customer Traffic Data**
**Medium : Automating Shift Scheduling with Linear Programming**

# Storage Assignment

Order-picking is the most time- and labor-consuming operation in a warehouse




**Paper : New model of the storage location assignment problem considering demand correlation pattern**

# Teamwork


$1.990
$1.790
Walmart Chile


La primera pla ta de h drógeno verde
a niv l industrial de Latinoamérica

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