

Merit Function 1: Minimize Waiting Time

Goal: Reduce how long customers wait before receiving service.

Approach:

- Add **digital pre-ordering** or **queue-number system**.
- Use **data analytics** to predict rush hours and **reallocate baristas** accordingly.
- Start drink preparation **as soon as payment is confirmed**.
- Simplify menu display → faster decisions.

Merit Function 2: Minimize Time Spent in the Café

Goal: Shorten total “entry-to-exit” duration.

Approach:

- Introduce **separate pickup lanes** for dine-in and takeaway.
- Use **QR-code ordering** from the customer’s table or while they’re on the way.
- **Pre-prepare popular drinks** during peak hours.
- Provide **real-time order-ready notifications** through app or display.

Merit Function 3: Minimize Number of Personnel

Goal: Operate with fewer employees without hurting service quality.

Approach:

- Replace cashier with **self-ordering kiosks** or **mobile app**.
- Use **one barista for multiple stations** (automated milk frother, timed espresso machines).
- Train cross-functional staff who can **alternate between roles**.
- Employ **smart scheduling tools** to optimize shifts.

Merit Function 4: Minimize Waiting Time with Minimal Technology

Goal: Shorter queues, but **without heavy tech investment**.

Approach:

- Introduce **manual pre-order slips** or **SMS-based ordering** instead of a full app.

- Rearrange counter flow: separate **payment** and **pickup** stations.
- Use **simple color-coded tokens** or boards for order status instead of digital screens.
- Better **staff coordination and role division** (one person takes orders while another prepares).

 **Merit Function 5: (Not clearly defined in notes – you can assume)**

Goal (plausible): Maximize customer satisfaction / experience.

Approach:

- Reduce **service variability** (consistent taste, speed).
- Personalize drinks using **loyalty-card data**.
- Ensure **clean, comfortable environment** with quick service.
- Gather **feedback via QR surveys** to keep improving the process.

 **Merit Function 6: Minimize HR with Minimal Cost & Technology (Your Group)**

✓ Already achieved in your report: remove cashier → mobile app for ordering & payments, real-time data → fewer staff, minimal tech.

TO BE

Actor / Time(mm:ss)	0:00	0:30	2:00	2:30	3:00	4:00	4:10	6:20	6:30	6:35
Customer	Opens Starbucks App	Browses menu, selects drink	Customizes order	Reviews order	Pays in-app	Receives confirmation	Heads to store / waits	—	Heads to pickup counter	Picks up order from pickup counter
Digital App	Loads personalized	Displays real-time	Processes customer	Calculates total	Handles payment	Sends order to barista & inventory	Displays estimated	Shows order	—	—

	Menu	Menu synced with inventory	Optimization		Menu		Pickup time	Ready		
Barista	—	—	—	—	—	Receives order, Reviews drink details	Starts preparing	Completes beverage	Places order at pickup counter	—
Inventory System	Syncs stock	Logs ingredient use	—	—	Deducts inventory in real time	Updates usage logs	Reconciles totals	Auto-adjusts reorder levels	—	—
AS IS										
Actor / Time (mm:ss)	0:00	0:30	5:30		6:30	7:00	7:30	7:50	8:00	12:00
Customer	Enters store, stands in queue	Waits in line	Approaches cashier		Places order verbally	Waits for cashier to enter order	Pays via cash/card	Receives receipt	Waits near counter	Picks up drink & exits
Cashier	—	Takes previous order	Greets customer		Enters order into POS	Confirms order & repeats	Processes payment	Prints receipt	Passes order to barista verbally or	—

								via POS	
Barista	—	Prepares earlier order	Waits for next order	Receives order from cashier	Starts drink preparation	Continues preparing	Completes beverage	Places at pickup counter	—
Inventory System	—	—	Logs ingredient use manually /end of shift	—	—	Updates ingredient sheet manually	—	Reconciles stock at day end	—