

## 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	0:00	0:30	2:00	2:30	3:0	4:00	4:10	6:20	6:30	6:35
Time( mm:s s)					0					
Cust omer	Open s	Brows es	Cust omiz es	Revi ews	Pay s	Receive s	Heads to store	—	Head s to picku p	Picks up order
	Starb ucks App	menu, selects drink	order order	orde r	in-a pp	confirma tion	/ waits		p count er	from picku p count er
Digit al App	Loads perso nalize	Displa ys real-ti me	Proc esse s	Calc ulate s	Han dles pay	Sends order to barista & inventory	Display s estimat ed	Show ws order	—	—

	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
Actor / Time (mm:ss)	Actor / Time (mm:ss)	0:00	0:30	5:30	6:30	7:00	7:30	7:50	8:00	12:00
	Cashier	—	Takes previous order	Greets customer	Enters order into POS	Confirms order & repeats	Processes payment	Prints receipt	Passes order to barista verbally	—
Inventory System	Synchs stock	Logs ingredient use	—	—	Deducts inventory in real time	Updates usage logs	Reconciles totals	Automatically adjusts reorder level	—	—
Barista	—	—	—	—	Receives order, Reviews drink details	Starts preparing	Completes beverage	Places order at pickup point	—	—

**AS IS**

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