Part 1 — Core definitions & distinctions (with quick examples)

1) Process

Definition (exam-ready): A process is a repeatable sequence of actions where rules operate on data to produce a result.

Easy words: Steps that run on information under certain rules to get something done.

Example: Starbucks "order → pay → prepare → pick-up." Your report framed this flow and its bottlenecks, then redesigned it with a mobile app and real-time inventory, i.e., the same process but fewer manual steps and faster data movement.

2) Data, rules, and "line of visibility"

Data: Facts used by the process (order items, size, price, payment status).

Rules: If/then conditions that move work forward (e.g., "start drink only after payment OK").

Line of visibility: What the customer sees vs. backstage updates (inventory writes, staff screens).

Example: In your To-Be Starbucks model, the moment the app confirms payment, the barista station receives the spec and inventory auto-updates—customer sees "order in progress," backstage systems do the heavy lifting.

3) Timestamps (why they matter)

Definition: Time markers at each step (queued_at, ordered_at, paid_at, started_at, ready_at, picked_at).

Why: They let you measure wait vs. work time and prove which step is the bottleneck.

Example: Your report compares total time (12–15 min As-Is) vs. ~6–7 min To-Be after removing cashier tasks and manual POS friction. Those numbers come from instrumenting steps with time data.

4) Efficiency vs. Productivity (don't mix these)

Efficiency (do it with less waste): Output per unit of input at a step; often cuts time/effort per order.

Productivity (do more overall): Throughput—orders/hour for the whole store.

Example: Killing cashier keystrokes (app pay) makes **efficiency** better at the front; freeing that person or position improves **productivity** system-wide because the barista gets jobs sooner and you can serve more customers/hour.

5) Consistency

Definition: Same inputs under the same rules give the same outputs (quality + timing stability).

Example: Your To-Be design pushes the exact drink spec (size, milk, flavor) to the barista screen—less voice mis-communication → more consistent drinks and fewer remakes.

6) Inventory (and "time in system")

Definition: Stuff waiting to be processed or sold (beans, milk, cups… or even paid invoices waiting to go out).

Why "ideal inventory ~ 0" for services: Waiting ties up cash and makes forecasts harder.

Example: Your To-Be app decrements ingredients as orders are accepted, enabling timely replenishment and avoiding "stock-out at the counter" delays.

7) Capex vs. Opex (and why BPR talks both)

- **Capex:** One-time investments (kiosks, new POS, app build).

- **Opex:** Recurring running costs (staff wages, payment fees, app maintenance).
  BPR angle: If you add tech (capex), you must show it lowers opex or raises growth/throughput enough to pay back. Your report argues for **minimal tech** (mobile app over kiosks) to get the same HR savings at far lower capex.

8) Macro vs. Micro (economics primer you can quote fast)

- **Micro:** Firm/store level choices—pricing a latte, staffing, reorder points.

- **Macro:** Country/sector level—interest rates, inflation, sector strength (manufacturing vs. finance).
  Tie-in to BPR: Micro changes (your store's process) must still make sense inside macro constraints (payment rails fees, wage laws, demand cycles). Your report's KPI reframing and cost/transaction view are classic micro levers.

9) Value creation: production vs. finance (why your prof talks about it)

Production sector: Makes real goods/services—direct, tangible value.

Financial sector: Moves/allocates capital—indirect value (liquidity, convenience), can't sip a "loan," but you can sip a latte.

Exam line: "Production creates consumables; finance enables production/consumption through capital." Your Starbucks work sits squarely in production/service; your **payment** stream is a finance interface you optimized (instant OK-to-pay).

10) Debt (and "buying debt")

Debt: A promise to repay; **buying debt** means purchasing someone else's receivable (you pay now, collect later with interest/discount).

BPR link: Faster, cleaner order-to-cash reduces how long your receivables behave like "mini debts." In Ford A/P To-Be, removing the vendor invoice and matching PO + receiving in a database accelerates payment eligibility and slashes clerical load.

11) Merit function (how to judge "better" in one line)

Definition: A single score that blends what you care about (e.g., $\alpha \cdot \text{Cost} + \beta \cdot \text{Time} - \gamma \cdot \text{Throughput} + \delta \cdot \text{Errors}$). Lower is better if you weight costs positively and benefits negatively (or vice-versa—just be consistent).

Example: In your Starbucks case, you'd weight "cost per transaction," "total service time," and "automation ratio." Your doc already reframes KPIs toward cost/automation; a merit function just rolls them into one dial you can optimize.

12) As-Is → To-Be (the BPR leap)

As-Is: Manual order capture, POS entry, inventory lag, name-calling pickup.

To-Be: App ordering + instant payment + auto-pushed drink spec + live inventory; cashier role largely removed; barista starts earlier; queue shortens. Your write-up explicitly positions this as "minimal-tech with maximum effect."

13) Canonical "Don't automate—obliterate" example (Ford A/P)

As-Is: 3-way manual match (PO, receiving, invoice) → slow, error-prone, headcount heavy.

To-Be: Kill the vendor invoice; use a central database to auto-match PO + receiving; A/P pays on "OK-to-Pay" status. This is textbook reengineering: remove a whole document, not just key it faster.

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6 C-roles (one-liners + what they watch in BPR)

- **CEO:** Sets direction; signs off on trade-offs between capex now vs. growth later (merit function owner).

- **COO:** Owns processes; cares about throughput, queue lengths, takt time, staffing.

- **CTO:** Owns tech choices; minimal-tech vs. kiosks; integration risk and reliability.

- **CFO:** Owns money; capex/opex, ROI, payback, cost/transaction.

- **CHRO:** Owns people; reskilling cashiers, staffing models, morale.

- **CMO (if asked):** Owns demand/levers; loyalty app adoption and promo timing tied to capacity.

(Your Starbucks report already speaks CFO/COO language via cost/transaction, wait time, and staff utilization KPIs; we'll reuse those lines in answers.)

Tiny case-hooks you can copy into your notebook

- **Efficiency vs Productivity:** "We removed front-counter keystrokes (efficiency ↑), which pulled order start earlier to the barista (productivity ↑)."

- **Inventory:** "Auto-decrement ingredients at pay time → fewer stock-outs → fewer remakes."

- **Capex vs Opex:** "App (low capex) replaces kiosk hardware (high capex) while still reducing cashier opex."

- **As-Is → To-Be:** "From manual match to database 'OK-to-Pay' (Ford), from POS queue to app push (Starbucks)."