CSP BINFILL INVENTORY TRACKING SYSTEM

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1. ABSTRACT

IBM CSP department services hardware items for their System z mainframes and high-end POWER Systems. Workers use new parts, known as prime parts, and old parts. Old parts are placed at workstations whilst the prime parts are placed at Binfill shelves. The quantity of each prime part type is tracked using a Binfill card. When there is removal or replenishment, the worker manually updates the Binfill card. Once a week, a manual stock check is done and recorded into an Excel sheet.

2. PROBLEM STATEMENT

The current system of keeping track of Binfill parts is not reliable

A. Inaccuracy of records when workers do not update the Binfill cards
B. Errors committed due to laborious nature of weekly stock check
C. High danger of stock-out due to inaccuracy of records
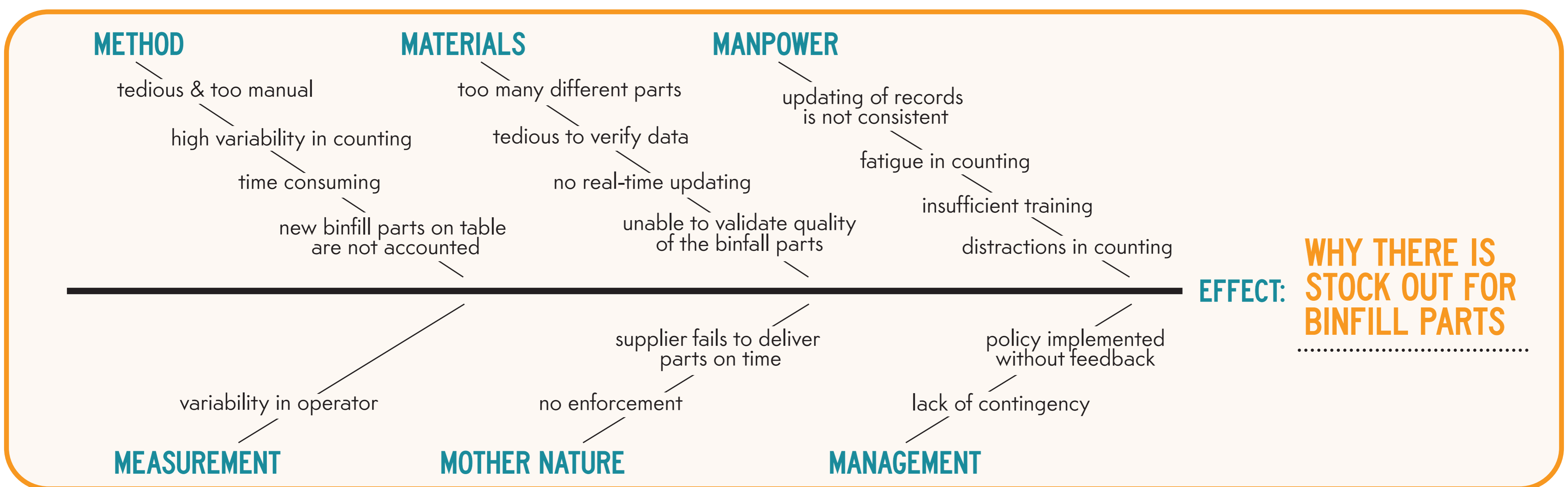D. Difficult to keep track due to lack of real time tracking

3. OBJECTIVE

To achieve an easy to use, reliable and efficient system to keep track of the quantity of Binfill parts on the shelves, such that the data is 'real time', risk of stock-out is minimized and stakeholders can monitor changes at any time
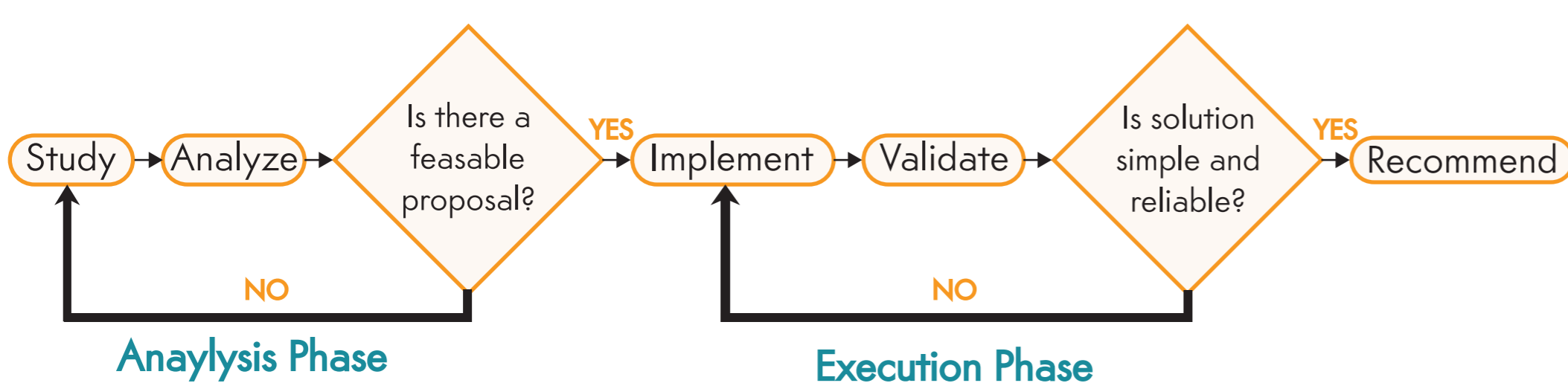
4. SCOPE & LIMITATIONS

A. Only Binfill parts in CSP will be tracked.
B. A solution that satisfies the requirements as set out by the Planning Department.
C. The solution had to be virtually cost free due to budget constraints.

5. PROBLEM ANALYSIS

METHOD
- tedious & too manual
- high variability in counting
- time consuming
- new binfill parts on table are not accounted

MATERIALS
- too many different parts
- tedious to verify data
- no real-time updating
- unable to validate quality of the binfall parts

MANPOWER
- updating of records is not consistent
- fatigue in counting
- insufficient training
- distractions in counting

EFFECT: WHY THERE IS STOCK OUT FOR BINFILL PARTS

MEASUREMENT
- variability in operator

MOTHER NATURE
- supplier fails to deliver parts on time
- no enforcement

MANAGEMENT
- policy implemented without feedback
- lack of contingency

6. METHODOLOGY

Study → Analyze → Is there a feasable proposal? —YES→ Implement → Validate → Is solution simple and reliable? —YES→ Recommend

NO (Anaylysis Phase) | NO (Execution Phase)

7. ANALYSIS OF THE CURRENT SYSTEM

| TRACKING SYSTEM	MANUFACTURING PROCESS	FLOOR LAYOUT	BUFFER STOCK
▲ Inefficient ▲ Manual ▲ Unreliable	▲ Requires use of Binfill items at every part of the process ▲ Binfill items are usually taken in bulk once in a few days	▲ Wi-Fi is available ▲ Power plugs only at workstations ▲ Shelves are everywhere	▲ Determined based on economic quantity

8. COMPARISON MATRIX

Criteria	Description	Weightage
Client Preference	IBM stakeholders' preference among the choice of solutions	20%
Accuracy	How accurate is the data collected and stored	20%
Cost effectiveness	How cheap is the solution to implement	20%
Ease of use	How user-friendly in the solution to affected parties	10%
Sustainability	How durable is the solution in the long run	10%
Data Security	How secure is the data	10%
Ease of implementation	How easy can solution be implemented	5%
Timeliness	How "real time" the solution can track inventory	5%

Based on the criteria, we analysed our proposed suggestions and decided on the final solution.

	Cost Effectiveness	Ease of Implementation	Ease of Use	Accuracy	Timeliness	Data Security	Stakeholder Preference	Sustainability	Total
Isolated Inventory Tracking System	3	2	4	4	5	5	4.25	5	4.15
Dedicated Inventory Tracking System	5	5	3	3	5	5	4	5	3.8
iPhone Barcode Scanning System	1	3	3	4	5	3	3	4	2.8
Sole Supervisor Inventory Tracking System	4	4	3	5	3	5	3.5	5	3.85

9. PROPOSED SOLUTION
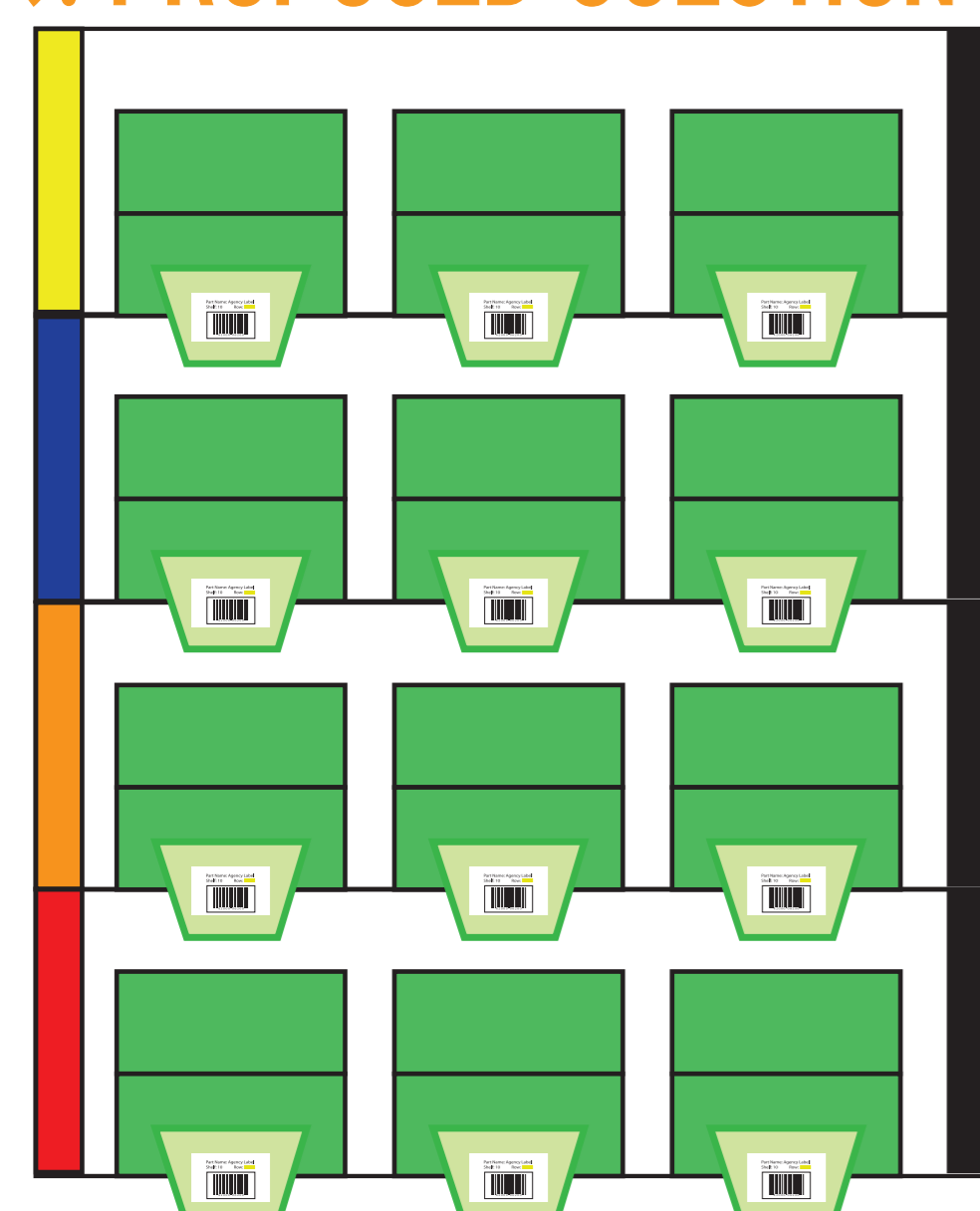
STEP 1: Take items and corresponding barcode cards from the shelf

Part Name: Agency Label
Shelf: 10   Row:
2000 06200
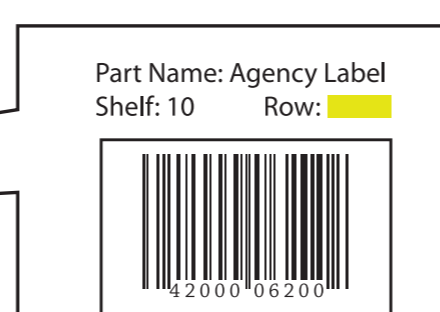
STEP 2: Scan the bar code card and enter quantity took / replenished in Excel Spreadsheet. Put bar code card in container.

Step One: Scan Barcode & Press Check
Step Two: Input Amount in the Box
Step Three: Press '+' or '-'

LOG OFF
95P4279
CHECK
+ −
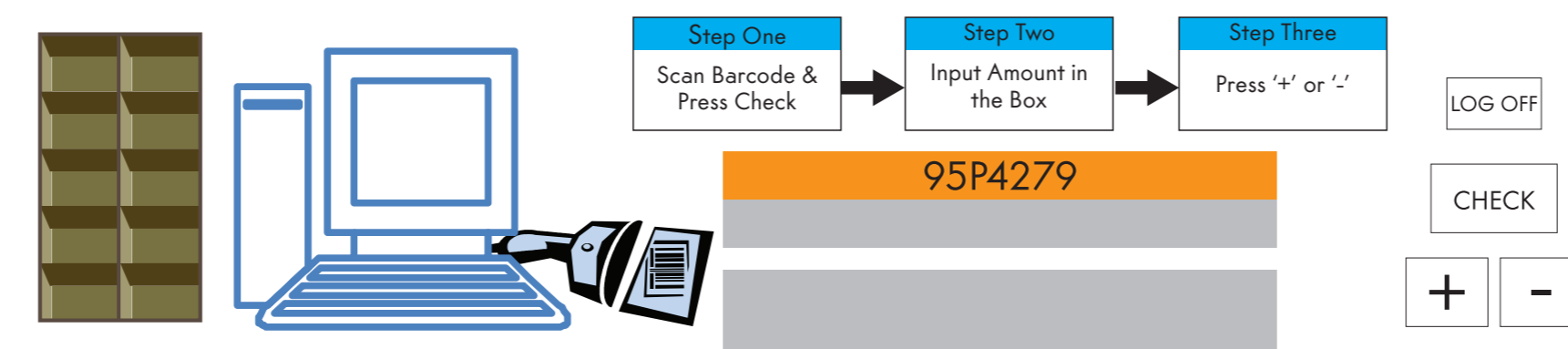
STEP 3: End of the day, supervisor will return barcode cards to corresponding bin item containers

10. VALIDATION OF RESULTS

Validation on whether solution has matched our objectives: an easy-to-use, reliable, and efficient inventory tracking system

▲ Ease of Use
Survey workers on the ease of use of our implemented solution

▲ Reliability
Solution validated statistically by deviation from the actual amount

▲ Efficiency
Amount of resources utilized (Comparison between new and old total working hours)