



● Simulated Case Study

A fictional business. Illustrative data. Proposed outcomes. No real client engagement or achieved results are claimed.

PROJECT OVERVIEW

Better processes. A more reliable promise.

An independent bakery, disconnected records and a customer promise that is difficult to protect. A structured assessment of the gaps — and a proportionate path forward.

PROJECT TYPE

Process improvement

APPROACH

Assessment → Gap analysis → Design

01 Executive summary

A practical case for better operational control.

The Daily Crumb Bakery is a fictional independent bakery in Cape Town. This assessment models how a small team could improve order management, production planning, ingredient control and fulfilment without commissioning a bespoke system. The central problem is not a lack of effort: orders, stock decisions and production instructions move through disconnected records, making the customer promise difficult to protect.

In the illustrative four-week baseline, 48 of 600 fulfilled orders contain an item or quantity error, 84 miss their original promise time, and 540 of 6,000 finished units are wasted. Staff spend an assumed 18 hours each week copying and reconciling records. These figures are scenario inputs, not observations or measured client results.

The analysis identifies seven gaps. The highest-priority interventions are a single order register with unique identifiers, a capacity-and-stock check before confirmation, versioned production job sheets, recorded stock movements and explicit exception ownership. Weak demand forecasting and incomplete supplier records compound the failures but must be validated as root-cause hypotheses rather than treated as proven causes.

The preferred path combines immediate manual controls with a limited off-the-shelf pilot. Technology is conditional on demonstrating recipe-level stock handling, usable exports, access controls and offline continuity. Proposed targets at the 12-week post-rollout review are 98% fulfilment accuracy, no more than 5% late orders, 5% finished-unit wastage, 5% discrepant stock lines and 8 weekly administration hours.

➤ Decision requested in a real engagement: approve discovery and a controlled pilot, not full deployment. Release rollout funding only after requirements, operational fit, total cost and privacy controls are validated. No interviews, workshops, observations, vendor procurement or implementation have taken place.

02 Business context & problem statement

Operating model, objectives and testable problems.

Scenario premise (fictional fact): one bakery sells bread, pastries and celebration cakes to walk-in customers, pre-order customers and a small number of local café accounts. Pre-orders arrive at the counter, by phone and via WhatsApp. Collection and limited local delivery are offered. A notebook, a shared spreadsheet, paper job sheets, a standalone till and an EFT reference log support operations. These are defined features of the fictional scenario, not externally verified facts.

Planning assumptions A01–A04: the team consists of one owner, one manager, three bakers and two counter staff; the shop trades six days per week; a four-week window contains 24 trading days; fulfilled pre-orders average 25 per trading day, giving 600 orders. Finished production totals 6,000 individual units, including walk-in stock and pre-order products. The KPI order cohort excludes immediate walk-in purchases. These populations must not be conflated.

Objective	Business outcome	Testable problem
BO1 · Reliable customer promises	Correct orders available by the original agreed time.	48/600 fulfilled pre-orders are inaccurate; 84/600 are late. Errors and delays may overlap.
BO2 · Lower avoidable waste	Match batch output to demand and protect ingredient availability.	540/6,000 finished units are discarded; 8/40 counted ingredient lines differ from recorded stock.
BO3 · Reduce administrative effort	Replace repeated entry with an owned, auditable record.	Assumed 18 staff-hours/week on order transcription, planning consolidation and reconciliation.
BO4 · Accountable, resilient operations	Controlled access, recovery and documented exception decisions.	Separate records cannot reliably reconstruct who changed a promise, stock balance or payment link.

Constraints include limited management time, perishable products, oven/proofing capacity, supplier lead times and inconsistent internet availability. Electricity interruptions are a contingency risk to validate, not an assertion about current outages. Proposed

software must support South African rand, local time and local privacy requirements. The bakery’s tax status, delivery capacity and actual supplier terms remain unknown.

03 Scope & boundaries

What this assessment includes — and deliberately excludes.

Category	Definition
In scope	Pre-order capture, amendments and status; daily production planning; recipe-based ingredient allocation; stock receipts, consumption, waste and adjustments; supplier ordering; quality release; collection/delivery handover; payment-reference reconciliation; operational reporting.
Out of scope	Full accounting, payroll, e-commerce storefront, automated courier routing, equipment replacement, multi-site expansion, marketing automation and payment processing. The existing till/EFT channels remain; the solution records references, not card data.
Stakeholders	Owner, manager, bakers, counter staff, suppliers and customers; an external bookkeeper or privacy adviser may validate specialist controls.
Assumptions	A01–A04 staffing and workload; A05 products can be mapped to recipes and units; A06 the owner can assign a manager as process owner; A07 candidate software can export usable data. None is validated.
Dependencies	Clean product catalogue, recipe quantities and yield, supplier lead times, capacity calendar, opening stock count, customer-promise rules, access matrix and documented privacy/retention decisions.
Constraints	No bespoke development in the preferred initial option; no replacement of the till; bounded pilot; approval required for any spend; staff must retain a workable paper fallback.

➤ Boundary: allergy details are captured as a warning requiring staff confirmation. This project does not certify food safety, remove cross-contamination risk or make an automated “allergen-free” guarantee.

04 Stakeholder analysis

Decision rights, concerns and planned validation.

Stakeholder	Concerns / influence	Information needs	Planned validation involvement
Owner · sponsor	Margin, affordability, customer retention. High decision influence.	Costs, risks, weekly KPIs and approval gates.	Approve objectives, funding ceiling, success thresholds and rollout decision.
Bakery manager · process owner	Feasible plans, exceptions, staff workload. High operational influence.	Confirmed orders, capacity, available stock and exception queue.	Walk through full order lifecycle; sign off business rules and pilot results.

Stakeholder	Concerns / influence	Information needs	Planned validation involvement
Bakers · production users	Recipe accuracy, batch size, timing and readable instructions. Medium influence.	Versioned jobs, ingredient quantities, quality criteria and changes.	Validate recipe units, batch grouping, delay and waste scenarios in a trial.
Counter staff · order custodians	Fast capture, clear promises, payment visibility. Medium influence.	Availability, current order status, approved amendments and collection list.	Test order capture, correction, handover and fallback entry using sample orders.
Suppliers · external dependency	Order clarity, lead times, minimum quantities. Medium influence.	Purchase quantities, delivery dates, substitutions and receipt discrepancies.	Confirm lead-time assumptions, ordering cut-offs and shortage escalation.
Customers · service recipients	Correct goods, timely updates, privacy. Low formal authority; high outcome importance.	Confirmed items, original promise, price, changes and refund decision.	Proposed consent-based review of confirmations and notifications; no actual contact claimed.

In a real engagement, the analyst would facilitate validation rather than approve operational policy. The owner resolves cost and policy conflicts; the manager owns process acceptance. Bakers and counter staff must test ordinary and exception cases before a decision gate can pass.

05 As-is process analysis

Where the customer promise becomes fragmented.



Process map

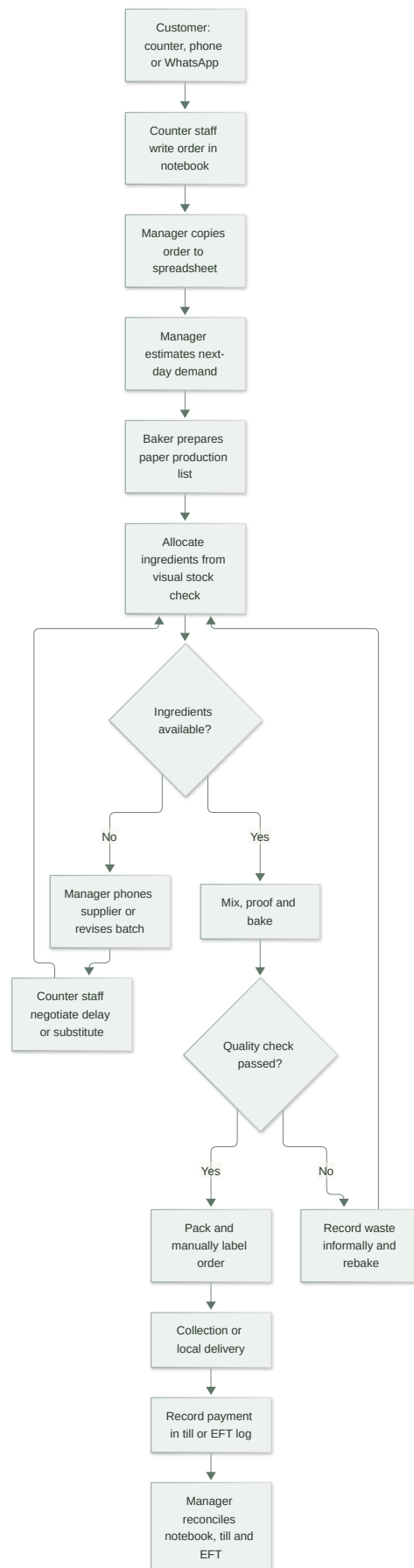


Figure 01 · Scenario-defined current process. Roles are named in the nodes; arrows show hand-offs, not observed timings.

1. Counter staff transcribe the request into a notebook, including items, quantities and expected collection. The manager later re-enters it into a spreadsheet. This hand-off introduces omission and version risk; a WhatsApp amendment may not reach both records.
2. The manager estimates demand and passes a paper production list to bakers. Ingredient allocation follows a visual stock check rather than a recorded reservation. A shortage therefore emerges after the promise has already been made. Supplier calls and customer renegotiation interrupt the normal queue.
3. Bakers mix, proof and bake, then check quality. Rejected output requires a new ingredient allocation and may delay other batches. Informal waste recording obscures the relationship between recipe consumption, actual stock and finished yield.
4. Staff pack and label manually, then release goods for collection or delivery. Without a compulsory order-ID match, the handover is vulnerable to item or quantity swaps. The manager reconciles the notebook against till/EFT records; payment-reference mismatches can remain unresolved.

Failure point	Control weakness	Root-cause hypothesis to test
Order amendment hand-off	No single version or accountable update owner.	G01: parallel records cause stale production instructions; compare timestamped amendments to job sheets.
Production release	Promise made before stock/capacity check.	G03: lack of available-to-promise logic causes overcommitment; compare queue, oven slots and shortage logs.
Ingredient allocation	No reservation or complete movement record.	G04: unposted consumption and mixed units cause apparent availability; reconcile counts to recipes and receipt records.
Packing and payment close	No mandatory match between order, goods and payment reference.	G01/G07: fragmented identifiers prevent reliable closure; sample handovers and daily reconciliation exceptions.

06 Evidence & illustrative baseline

Definitions first. Assumptions clearly separated from evidence.



All values below are illustrative assumptions for one four-week period, not actual performance. F01–F04 are scenario-defined facts (channels, disconnected records, paper production instructions, separate till/EFT records). Numerical values are assumptions; causal statements remain hypotheses.

Indicator / ID	Unit and assumed value	Definition / population	Evidence required in a real engagement	Limitation
Accuracy · K01	92% · 552/600 orders	Fulfilled pre-orders with correct items and quantities / all fulfilled pre-orders.	Order lines, packing checklist, handover record and error/complaint reconciliation.	Unreported errors may be missed; timing is assessed separately.
Wastage · K02	9% · 540/6,000 units	Discarded finished units / all finished units produced; each piece counts once.	Batch yields, production totals and waste log by reason and product.	Unit rate does not represent financial loss; product mix matters.
Stock discrepancy · K03	20% · 8/40 lines	Ingredient lines with any verified count variance / lines physically counted.	Same-cut-off book balances and blind counts of 40 active ingredient lines.	Any variance counts; measure materiality separately. Not a 20% stock-value loss.

Indicator / ID	Unit and assumed value	Definition / population	Evidence required in a real engagement	Limitation
Late orders · K04	14% · 84/600 orders	Orders ready after original agreed ready time / fulfilled pre-orders.	Original promise timestamp and quality-released ready timestamp.	Customer-arrival delays excluded; amended promises never erase original lateness.
Manual administration · K05	18 staff-hours/week · 72/4	Total staff time on transcription, planning consolidation and reconciliation / four weeks.	Task diary in 15-minute increments, checked against staff schedules.	Recall bias and double counting; exclude baking, customer sales and training.

Planned evidence approach: reconcile the 600-order cohort to unique order IDs; independently sample errors and delays; preserve original and revised promise times; count ingredients at a common cut-off; reconcile produced, sold, carried-forward and discarded units. Use two staff members to verify counts and define exclusions before calculation. Report missing timestamps and unrecorded movements as data-quality exceptions rather than silently excluding them.

Validation threshold proposal: do not accept the baseline until at least 95% of cohort orders have complete item and promise/ready records, all 40 stock lines share a cut-off, and administration diaries cover all four weeks. This threshold is a proposed data-readiness gate, not evidence that the dataset exists. Compare a comparable four-week post-rollout window and note holidays, promotions, weather and product-mix changes.

07 Gap analysis

Seven gaps, explicit causes and measurable interventions.

➤ Current-state descriptions below are fictional scenario premises. Root causes are hypotheses pending evidence. H = high priority; M = medium. Each intervention has a requirement and KPI connection in Section 16.

Process / gap	Current state	Desired state	Identified gap	Root-cause hypothesis	Business impact	Priority	Intervention	Dependencies	Proposed success measure
Order capture · G01	Notebook plus re-entered spreadsheet.	One owned, versioned order with mandatory fields.	No reliable master record or closure match.	Parallel sources and undefined amendment ownership.	Wrong items, rework, unmatched payments.	H	Unique ID; validate fields; audit amendment; verify handover/payment link.	Catalogue, status model, trained counter staff.	K01 ≥98%; K05 ≤8 h/week.
Demand forecasting · G02	Manager estimates daily quantities.	Recent sales and confirmed demand inform batch quantities.	No repeatable forecast or waste feedback.	No product-level sales/waste history; assumed, not proven.	Overproduction or missed demand.	M	Four-week rolling weekday comparison plus manager override reason.	Sales by product; consistent finished-unit yields.	K02 ≤5%.
Production scheduling · G03	Paper list; late capacity checks.	Versioned batch plan with capacity and stock checks.	Promises and oven slots not linked.	No agreed capacity model or release gate.	Late orders, urgent queue disruption.	H	Available-to-promise check; manager-controlled urgent approval.	Recipes, oven/proofing slots, stock reservations.	K04 ≤5%.

Process / gap	Current state	Desired state	Identified gap	Root-cause hypothesis	Business impact	Priority	Intervention	Dependencies	Proposed success measure
Inventory management · G04	Visual checks; informal use/waste entries.	Unit-consistent receipts, reservations, use and adjustments.	No auditable available balance.	Mixed units and incomplete movement posting.	Shortages, unreliable cost information.	H	Opening count, base units, recipe consumption, alerts and weekly count.	Recipe/yield validation, base-unit conversions.	K03 ≤5% (≤2/40 lines).
Supplier ordering · G05	Ad hoc phone calls on shortage.	Approved orders with due dates and receipt checks.	Lead times and open purchases not visible.	No supplier master or order/receipt match.	Expedited purchases and missed batches.	M	Reorder review; manager approval; record partial receipts.	Lead times, pack sizes, reorder policy.	K03 ≤5%; monitor shortage cause tags within K04.
Customer communication · G06	Individual calls or WhatsApp updates.	Consistent confirmations and recorded exception consent.	No assurance revised promise reaches customer.	No notification owner or acknowledgment log.	Unplanned waits and disputed changes.	H	Counter-owned confirmation, ready notice and delay decision log.	Verified contact details; approved message templates.	K04 ≤5%; communication compliance reviewed separately.
Reporting · G07	Manual cross-record consolidation.	Daily exceptions and weekly defined KPIs.	Definitions, audit trail and owners absent.	Fragmented identifiers and no reporting cadence.	Slow decisions; benefits not testable.	H	Order-level export, metric dictionary, review and action log.	G01/G04 stable records; process owner assigned.	K05 ≤8 h/week; K01–K04 comparable by cohort.

Root-cause framework: People—unclear ownership; Process—no confirmation/release gate; Data—duplicate identifiers and mixed units; Technology—disconnected records; Environment—capacity and connectivity constraints. A symptom such as “late orders” is not itself a root cause. For example, five-whys testing would trace a delayed batch from missing flour, to an overstated balance, to an unposted movement, then test whether missing ownership or unusable capture caused the omission. Evidence may reject this chain.

08 To-be process design

A lightweight workflow with controlled exceptions.

 Process map

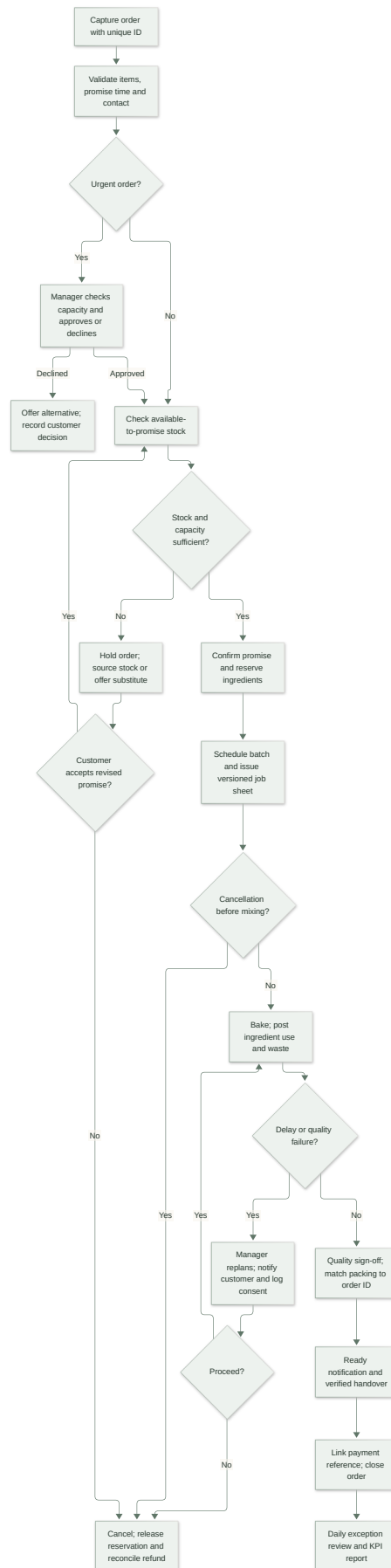


Figure 02 · Proposed future-state workflow. Technology supports the controls; it does not replace manager judgement.

Counter staff own the order record. An order progresses Draft → Held or Confirmed → Scheduled → In production → Ready → Fulfilled → Closed; Cancelled is a terminal alternative. Confirmation requires a feasible promise and ingredient reservation. A versioned job sheet carries the order IDs, recipe quantities and current approved plan. Bakers record actual ingredient use and waste; the manager approves quality release and stock adjustments. Handover requires a goods-to-order check. Closure requires a linked payment reference or an owner-approved account arrangement.

Exception	Owner and proposed control	Record / outcome
Stock shortage	Manager holds the order, checks supplier availability and offers a substitution or revised time. Never confirm against unavailable stock.	Hold reason, proposed change and customer acceptance; reserve only on confirmation.
Urgent order	Manager checks current reservations, recipe time and oven capacity before approval. Do not displace an existing promise without consent.	Approval/decline, capacity check and offered alternative; record original promise.
Cancellation	Before mixing: release reservation and remove job. After mixing: manager assesses salvage, actual consumption and proposed refund under an approved policy.	Cancelled state, reason, stock/recovery decision, payment/refund reference; never return consumed ingredients to available stock.
Delay or failed quality	Manager replans; counter staff notify customer and log consent to revised timing or cancellation.	Original promise retained, revised promise, quality/waste record and customer decision.
Internet unavailable	Use a sequentially numbered fallback form and latest printed production plan. Manager authorises provisional promises using last-known stock and capacity.	On restoration reconcile each fallback ID once, check conflicts, notify affected customers and retain reconciliation log.

G01/G07 are addressed through a single identifier and audit trail; G03 through a release gate and capacity-aware plan; G04/G05 through recorded movements and supplier visibility; G06 through named notification ownership. G02 improves only after sufficient product-level history exists. The workflow can start on controlled paper/spreadsheet records; automation is a later, validated enabler.

09 Requirements specification

Prioritised requirements with verifiable acceptance criteria.

➤ MoSCoW: Must = pilot cannot proceed without it; Should = valuable after core controls work; Could = optional within approved budget; Won't = excluded from this release. All criteria below are proposed, not signed off. BO IDs refer to Section 2.

ID / priority	Requirement and rationale	Acceptance criterion	Trace
FR01 · Must	Capture a unique order with customer contact, item, quantity, ZAR amount and original promise; prevent omissions.	Saving without any mandatory field is rejected; two submitted orders receive different IDs; zero/negative quantities are rejected.	G01 · BO1/BO3
FR02 · Must	Track status and versioned amendments; maintain an authoritative record.	Every change stores user, timestamp, before/after values and reason; original promise remains unchanged; invalid status transitions are blocked.	G01 · BO1/BO4
FR03 · Must	Check ingredient availability and capacity before confirming.	For demand of 10 kg and available-to-promise stock of 8 kg, confirmation is blocked; full oven slots also block it.	G03/G04 · BO1/BO2

ID / priority	Requirement and rationale	Acceptance criterion	Trace
FR04 · Must	Produce versioned daily batch schedules and job sheets.	Each job shows recipe, quantity, start time, oven slot, version and linked order IDs; an amendment marks the previous version superseded.	G03 · B01/BO3
FR05 · Must	Record receipts, reservations, consumption, waste and adjustments in base units.	A 25 kg receipt adds 25 kg; reserving 10 kg reduces available, not on-hand; consuming it reduces on-hand and clears reservation; adjustment needs reason and manager approval.	G04 · B02/BO4
FR06 · Must	Alert on available stock at or below a manager-set reorder point.	At a 5 kg threshold, balances of 5 and 4 kg alert; 6 kg does not; acknowledgement stores owner and time.	G04/G05 · B02
FR07 · Should	Track approved supplier orders and partial receipts.	A 50 kg purchase with a 25 kg receipt leaves 25 kg outstanding; unreceived quantity never increases on-hand.	G05 · B02
FR08 · Must	Record confirmations, readiness and customer exception decisions.	Delay entry requires proposed time and contact owner; accepted/rejected change is timestamped; failed contact remains unresolved in the exception queue.	G06 · B01/BO4
FR09 · Must	Match packed items and payment references to the order.	Handover rejects a quantity mismatch; closure requires a payment reference or approved account flag; no card-number field is stored.	G01/G07 · B01/BO4
FR10 · Must	Provide defined KPI reports and CSV exports.	The illustrative fixture returns K01 92%, K02 9%, K03 20%, K04 14%, K05 18 h/week; zero denominators show “not available”, not 0%.	G07 · B01/BO2/BO3
FR11 · Must	Enforce role-based access and audit sensitive changes.	Counter role cannot approve stock adjustments or manage users; baker cannot export customer data; manager can approve adjustments; owner manages access.	G04/G07 · B04
FR12 · Must	Reconcile fallback orders and cancellation decisions.	Importing the same fallback ID twice creates only one order; a pre-mixing cancellation releases its reservation; a post-mixing cancellation does not restore consumed stock.	G01/G03/G04 · B01/BO4
FR13 · Should	Suggest demand by weekday and product using four complete weeks.	Suggestion equals mean units sold for matching weekdays plus confirmed demand not already included; with incomplete history show “insufficient data”; override requires reason.	G02 · B02
ID / priority	Non-functional requirement / rationale	Acceptance criterion	Trace
NFR01 · Must	Usability: suitable for a small team under counter pressure.	After 60 minutes of training, each of two counter testers captures five valid standard orders; median completion time ≤2 minutes and no missing mandatory fields.	B01/BO3 · FR01
NFR02 · Must	Performance: prompt response on agreed shop devices.	In 50 valid save/status actions with 5 concurrent users on the agreed connection, ≥95% complete within 3 seconds. Device and network profile recorded.	B03 · FR01/FR02

ID / priority	Non-functional requirement / rationale	Acceptance criterion	Trace
NFR03 · Must	Continuity: bounded loss and tested restoration.	Daily export/backup permits recovery of data to within 24 hours; a timed drill restores usable records within 4 hours; fallback reconciles transactions since backup.	BO4 · FR12
NFR04 · Must	Privacy/security: purpose-limited data and controlled access.	Role-denial tests pass; TLS used in transit; supplier confirms encryption at rest; test customer data is deleted after approved retention period; no card data collected. Retention period is a pre-pilot decision.	BO4 · FR08/FR11
NFR05 · Must	Accessibility and local compatibility.	Core tasks work with keyboard only at 200% zoom; errors identify fields in text; ZAR totals retain two decimals; timestamps display Africa/Johannesburg local time.	BO1/BO3 · FR01/FR04
NFR06 · Should	Portability: avoid preventable vendor lock-in.	Owner exports orders, lines, stock movements, audit records and supplier orders to documented CSVs; ten sampled order relationships reconstruct by stable IDs.	BO4 · FR07/FR10

¹⁰ User stories & acceptance tests

Eight operational stories linked to business outcomes.

Story / trace	User story	Given / When / Then
US01 · FR01/02 · BO1/3	As a counter assistant, I want one complete order record, so that bakers receive the correct request.	Given an order lacks a promise time, when I save it, then saving is rejected and the missing field is identified. Given a valid order, when I save it, then a unique ID and original promise are stored.
US02 · FR03/04 · BO1/2	As a manager, I want stock and capacity checks, so that I do not promise an infeasible batch.	Given a batch requires 10 kg and only 8 kg is available, when I confirm, then the order remains Held with a 2 kg shortage. Given sufficient stock but no oven slot, then confirmation also remains blocked.
US03 · FR04/02 · BO1/3	As a baker, I want a versioned job sheet, so that I bake the latest approved quantities.	Given version 1 requests 20 rolls, when a manager approves 30 rolls, then version 2 shows 30, links the same order and marks version 1 superseded.
US04 · FR05/06 · BO2/4	As a manager, I want auditable stock and alerts, so that I can act before ingredients run out.	Given on-hand flour is 15 kg with 9 kg reserved, when another 1 kg is reserved, then on-hand stays 15 kg, available becomes 5 kg and a 5 kg threshold alerts.
US05 · FR07 · BO2	As a manager, I want partial supplier receipts, so that unreceived stock is not available for production.	Given an approved 50 kg purchase, when I receive 25 kg, then on-hand increases by 25 kg and 25 kg remains outstanding; the remaining purchase is not available stock.
US06 · FR08/02 · BO1/4	As a counter assistant, I want logged customer decisions on delays, so that revised promises are explicit.	Given an original promise of 10:00 and a delay to 11:00, when the customer accepts, then both times and acceptance are stored; readiness at 10:30 still counts as late against 10:00.
US07 · FR09 · BO1/4	As a counter assistant, I want a verified handover and payment link, so that I close the right order.	Given an order for 12 rolls and a packing count of 10, when I release it, then handover is blocked. Given correct packing but no payment reference/account approval, when I close it, then closure is blocked.

Story / trace	User story	Given / When / Then
US08 · FR10/11/12 · BO3/4	As an owner, I want reconciled, access-controlled reporting, so that I can trust the weekly review.	Given fallback ID P-001 already exists, when it is imported again, then order count is unchanged and duplicate is flagged. Given a baker role, when it requests a customer export, then access is denied and logged. Given the baseline fixture, when I run KPIs, then K01 is 92% and K04 is 14%.

11 Options analysis

Choose operational fit before committing to software.

➤ All costs are planning allowances in ZAR, not vendor quotations. They exclude VAT, hardware, staff backfill and payment fees. Confirm tax treatment and actual quotations before funding approval. Annual recurring cost covers 12 months; year-one total = setup + recurring.

Criterion	A · Controlled manual processes	B · Off-the-shelf solution	C · Custom development
Setup allowance	R3,000–R8,000	R10,000–R25,000	R80,000–R180,000
Annual recurring allowance	R0–R2,400	R6,000–R18,000	R18,000–R48,000
Year-one allowance	R3,000–R10,400	R16,000–R43,000	R98,000–R228,000
Implementation effort	1–2 weeks of control design; staff discipline ongoing.	Proposed 8-week staged delivery, conditional on configuration fit.	Indicative 4–6 months; build, security testing and support procurement.
Operational fit	Good for stabilising IDs and checks; poor concurrent stock visibility.	Potentially good; recipe reservation and fallback must be demonstrated.	High theoretical fit; detailed rules and support still required.
Scalability	Low; administration grows with order volume.	Moderate; depends on users, transaction limits and multi-site capability.	Flexible but every change requires funded development.
Risk	Version errors, access limitations and manual reconciliation persist.	Vendor lock-in, subscription changes and configuration mismatch.	Delivery overruns, security gaps and key-person dependency.
Maintenance	Manager maintains templates, counts and access to shared files.	Vendor maintains platform; manager owns master data and controls.	Bakery must contract ongoing fixes, upgrades and recovery support.

Option B is preferred conditionally, preceded by Option A's immediate controls. It offers a more proportionate route to one shared record than a bespoke system. Selection is contingent on a scripted demonstration of FR03–FR06, FR11–FR12 and NFR03–NFR04. A basic point-of-sale package without recipe-level reservations is not assumed to satisfy these requirements. If no affordable candidate passes, retain controlled manual operations and revisit scope; do not disguise spreadsheet workarounds as completed automation.

Illustrative capacity-value calculation: reducing administration from 18 to 8 staff-hours/week releases 10 hours/week. At an assumed blended opportunity rate of R60/hour over 48 active weeks, this equals R28,800/year in capacity value, not guaranteed cash savings. At Option B's year-one allowance of R16,000–R43,000, net year-one capacity value ranges from +R12,800 to –R14,200 before excluded costs. No payback claim is defensible until costs, achievable time release and productive redeployment are validated. Waste-value and revenue benefits are deliberately not monetised without product costs and mix.

12 Prioritised recommendations

Stabilise the process, then digitise selectively.

MoSCoW	Intervention / gap	Timing and dependency	Risk / change response
Must · immediate	Single numbered order register; mandatory fields; amendment owner; packing and payment checklist (G01/G06/G07).	Weeks 1–3, after validation of promise and closure rules.	Parallel registers may continue; nominate one master and retire uncontrolled copies.
Must · immediate	Opening ingredient count; base units; production release checklist; daily exception review (G03/G04).	Weeks 2–3; recipes, capacity and stock cut-off agreed.	Count errors and staff workload; paired count, short job sheets and manager supervision.
Must · technology-dependent	Shared status, stock reservation/movements, job versions, alerts, access and exports (G01/G03/G04/G07).	Pilot weeks 4–5 only if candidate passes Must requirements.	Over-configuration; limit pilot to a representative bread/pastry range and one shift.
Must · rollout prerequisite	Notification ownership, privacy decisions, restore/fallback drill and role training (G06/G07).	Before rollout gate; owner approves retention and supplier terms.	Adoption/privacy failures; role-specific practice, access tests and signed control checklist.
Should	Supplier orders/partial receipts and product-level weekday forecast (G02/G05).	After stable movements and four complete weeks of history.	Bad data amplifies forecasts; require completeness checks and manager overrides.
Could	Automated messaging and barcode-assisted handover (G01/G06).	Only if budget, consent and core controls permit; not required in pilot.	Extra integration costs; manual logged messages remain acceptable.
Won't · this release	Custom build, full accounting, e-commerce and automated delivery routing.	Out of scope; separate future business case.	Scope expansion consumes time without proving current controls.

Adoption approach: the manager acts as process champion, counter staff and bakers review sample job sheets, and the owner protects training time. Proposed daily 10-minute pilot exception reviews distinguish workflow issues from software defects. Track access, duplicate entry and unposted movements; never treat attendance at training as proof of adoption. No training or change activity has actually been delivered.

13 KPI framework

Proposed outcomes, not reported achievements.

KPI	Formula	Illustrative baseline	Proposed target	Frequency / source	Owner / rationale
K01 · Fulfilment accuracy	Correct item-and-quantity fulfilled orders ÷ all fulfilled pre-orders ×100.	552/600 = 92%.	≥98% (≥588/600 if same volume).	Weekly review; four-week evaluation. Order lines + packing/handover record.	Manager · B01; protects order correctness.
K02 · Finished-product wastage	Discarded finished units ÷ total finished units produced ×100.	540/6,000 = 9%.	≤5% (≤300/6,000 if same volume).	Daily capture, weekly review. Batch and waste logs.	Lead baker · B02; detects avoidable overproduction.

KPI	Formula	Illustrative baseline	Proposed target	Frequency / source	Owner / rationale
K03 · Stock discrepancy rate	Counted ingredient lines with verified non-zero variance ÷ all counted ingredient lines ×100.	8/40 = 20%.	≤5% (≤2/40 with same lines).	Weekly paired count at fixed cut-off. Count sheet + movement ledger.	Manager · B02/B04; tests record integrity, not value loss.
K04 · Late-order rate	Orders quality-released after original promise ÷ fulfilled pre-orders ×100.	84/600 = 14%.	≤5% (≤30/600 if same volume).	Daily exception review, weekly KPI. Original promise + ready timestamps.	Manager · B01; prevents resetting the clock on delays.
K05 · Manual administration	Total in-scope administration staff-hours ÷ weeks measured.	72/4 = 18 h/week.	≤8 h/week (≤32 hours/four weeks).	Weekly task diary and schedule reconciliation.	Owner · B03; measures capacity release, not headcount savings.

➤ Evaluate proposed targets over a comparable four-week window at the 12-week post-rollout review. Rates use actual eligible denominators, not a forced 600-order or 6,000-unit total. Cancellations are excluded from fulfilment rates but reported separately to prevent hiding poor service. Error and late cohorts may overlap. Zero denominators return “not available”.

Guardrails: monitor cancellation reasons, customer complaints, ingredient variance quantities/value and quality rejects alongside the headline KPIs. A lower waste rate caused by underproduction or a lower late rate caused by cancelling difficult orders is not a successful outcome. The owner and manager must agree how product mix and seasonal demand affect comparison before interpreting benefit.

14 Risk & control register

Operational, delivery and information risks.

➤ Qualitative ratings are illustrative: Low / Medium / High for likelihood and impact. Residual ratings assume the proposed control works and must be reassessed after testing.

ID / risk	Likelihood	Impact	Mitigation / control evidence	Owner	Residual
R01 · Inaccurate opening stock or recipe units	High	High	Paired count; base-unit conversions; test receipts/reservations/consumption against physical balance before pilot.	Manager	Medium
R02 · Staff retain parallel paper records	High	High	Single master rule, role-specific practice, daily duplicate/missing-order review and supervised reconciliation.	Manager	Medium
R03 · Poor migrated customer/product data	Medium	High	Remove duplicates; validate catalogue, required fields and sample balances; reject incomplete migration rows.	Counter lead	Low

ID / risk	Likelihood	Impact	Mitigation / control evidence	Owner	Residual
R04 · Internet disruption during trading	Medium	High	Numbered fallback forms, printed plan, conservative provisional promises and duplicate-safe recovery drill.	Manager	Medium
R05 · Unauthorised customer access or excessive retention	Medium	High	Minimum fields, role denial tests, owner-approved retention, supplier processing terms and access reviews. Obtain qualified POPIA advice.	Owner	Medium
R06 · Data loss / vendor service failure	Medium	High	Daily exports/backups, external protected copy, tested 24-hour recovery point and 4-hour restoration, exit export test.	Owner	Medium
R07 · Candidate lacks recipe reservation or usable exports	Medium	High	Scripted Must-requirement demonstration before contract; no rollout if gaps remain; retain Option A fallback.	Owner	Low
R08 · Electricity outage or oven breakdown	Medium	High	Validate equipment/energy contingency, prioritise safe batches, stop infeasible promises and notify customers.	Manager	Medium
R09 · Supplier delay or unsafe substitution	Medium	High	Confirm lead times, approved alternatives and allergen implications; customer consent and quality approval before release.	Manager	Medium
R10 · Costs exceed allowance or time savings fail	Medium	Medium	Written quotations, stage-gated spend, task diaries and comparable evaluation; defer optional features.	Owner	Medium

15 Implementation roadmap

A proposed eight-week delivery, followed by benefits review.

Phase / proposed timing	Deliverables and involvement	Dependencies	Decision gate
1 · Discovery & validation · Weeks 1–2	Validate channels, baseline, recipes, workload, capacity, customer rules and budget with stakeholders; obtain actual software quotations.	Access to representative source records and staff; sponsor availability.	GATE 1: owner approves scope, validated baseline or explicit evidence gaps, budget ceiling and metric definitions.
2 · Process redesign · Week 3	Agree master register, status model, ownership, stock units, exception/refund rules, privacy decisions and scripted tests.	Gate 1; recipe catalogue; opening count plan.	GATE 2: manager signs off workflow; owner approves policy/access; candidate passes documented Must-fit review.

Phase / proposed timing	Deliverables and involvement	Dependencies	Decision gate
3 · Controlled pilot · Weeks 4–5	Configure limited product range and one shift; complete opening count; test ordinary/urgent/shortage/cancellation/delay flows and recovery.	Gate 2; candidate available; trained pilot users; no uncontrolled double stock posting.	GATE 3: all Must criteria pass; no unresolved critical defect; all pilot orders reconcile; owner approves rollout readiness.
4 · Training & readiness · Week 6	Role-specific exercises, job aids, access checks and full-team fallback/restore drill; compare diary workload.	Stable pilot workflow; protected staff time.	GATE 4: all core users complete assigned tasks; manager accepts continuity and support arrangements.
5 · Rollout · Weeks 7–8	Expand only to validated recipes/products; migrate approved balances; retire duplicate registers; daily exceptions and support triage.	Gate 4; verified cut-over balances; named support owner.	GATE 5: first full week reconciles; no critical open defects; remaining risks accepted by owner.
6 · Post-implementation review · 12 weeks after rollout	Compare the latest comparable four-week period to validated baseline; assess all five KPIs, cancellation/quality guardrails, costs and capacity redeployment.	Four complete weeks of usable data; product-mix review; stable operating conditions.	BENEFIT GATE: owner decides retain, improve or pause. Targets are proposals and are not guaranteed.

The eight-week schedule is an indicative delivery assumption, not a fixed commitment. Failed gates delay subsequent phases; elapsed time alone never authorises rollout. Where recipe-level stock functionality or privacy/continuity controls are missing, stop procurement or reduce scope explicitly. No phase has started.

16 Traceability & validation

An unbroken link from business problem to proposed outcome.

Objective	Gap	Requirements	Stories	Proposed solution component	Outcome measure
BO1 · Reliable promises	G01 · Capture	FR01/02/09/12; NFR01/05	US01/07/08	Master order, amendments, packing match and duplicate-safe fallback.	K01, K04
BO1 · Reliable promises	G03 · Scheduling	FR03/04/12; NFR02/03	US02/03/08	Capacity/stock gate, job versions and controlled exception decisions.	K04
BO1/BO4 · Promises & accountability	G06 · Communication	FR08/02; NFR04	US06	Logged confirmations, revised promises and customer decisions.	K04 + notification/complaint guardrails
BO2 · Waste reduction	G02 · Forecasting	FR13/10	US08 (reporting); forecast acceptance in FR13	Product-weekday history, manager override and waste review.	K02
BO2/BO4 · Stock integrity	G04 · Inventory	FR03/05/06/11/12; NFR03/04	US02/04/08	Base-unit ledger, reservations, alerts, count/adjustment audit.	K03, K02
BO2 · Ingredient availability	G05 · Suppliers	FR06/07; NFR06	US04/05	Approved purchases, due dates and partial receipt record.	K03; shortage tags in K04
BO3/BO4 · Effort & accountability	G07 · Reporting	FR09/10/11; NFR02/03/04/06	US07/08	Reference reconciliation, KPI dictionary, exports, access and recovery.	K05 and reliable K01–K04

Validation plan: planned stakeholder walkthroughs test the fictional process assumptions; sample-record reconciliation tests baseline definitions; a scripted vendor demonstration tests feasibility; role-based user acceptance tests cover all Must criteria; restore and access drills test non-functional controls. Maintain a decision log and link evidence to requirement IDs. “Approved” is only applied after the accountable stakeholder records an actual decision in a real engagement.

- Q01 · What are actual order volumes, product mix, error definitions and peak periods? Resolve before accepting A01–A04 and baseline rates.
- Q02 · Which recipes, yields, base units, shelf lives, allergen controls and oven/proofing constraints apply? Resolve before FR03–FR05 configuration.
- Q03 · What promise, urgent-order, cancellation, deposit, account and refund rules will the owner approve? No deposit percentage or cancellation cut-off is assumed.
- Q04 · What are supplier lead times, minimum packs, ordering cut-offs and acceptable substitutions? Resolve before reorder-point approval.
- Q05 · Which affordable candidates meet Must requirements, what is the full tax-inclusive cost, and what is the contractual backup/export support?
- Q06 · Which customer fields are necessary; what retention periods, lawful processing basis, messaging consent and cross-border hosting terms require qualified privacy review?
- Q07 · Who owns notifications, stock counts, access reviews and after-hours recovery? What network/power contingency already exists?
- Q08 · Is released staff time redeployed productively, and are baseline/post-rollout periods comparable? Resolve before any benefits or payback assertion.

¹⁷ Professional conclusion

A defensible proposal — not a claim of delivered results.

The business case rests on reducing fragmented hand-offs and strengthening control of the customer promise. Unique order records, realistic production release, unit-consistent stock movements and explicit exception decisions directly address the seven documented gaps. An off-the-shelf pilot is proportionate only if it passes the defined operational, privacy and continuity requirements; manual control improvement remains a credible fallback.

The analysis is limited by its simulated nature. The business configuration, staffing, workload, cost allowances, baseline values and targets are illustrative; root causes are testable hypotheses. There are no real interview findings, vendor quotations, implemented changes or achieved benefits. The financial illustration represents potential capacity value, not verified cash savings or ROI.

The next defensible step is discovery: validate the baseline and business rules, confirm technical fit and costs, then seek sponsor approval for a bounded pilot. A hiring-manager discussion can examine the requirement-to-gap links, denominator choices, exception controls and decision gates without relying on invented delivery claims.

- ✓ Evidence before claims. Controls before technology.
A proposal ready for validation—not a story of invented success.
-

The Daily Crumb Bakery / Business Analysis
Case Study

Simulated portfolio work · All business figures and cost estimates are illustrative.