Process Definition Document

Process Name:
Inventory Management

PREPARED FOR
[redacted]

DOCUMENT VERSION
v1.0.1

PREPARED BY
Ernest Ng

DATE
[REDACTED]

Contact

For any request of changes to this project or document, please contact the following:

Process Owner(s): [redacted]

Solution Architect(s): Ernest NG
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This process is built with

Contents

1. Introduction

This Process Definition Document (PDD) defines the business process, automation scope, operational rules, system requirements, and expected behavior of the process automation workflow.

It serves as the central reference for process owners, business users, developers, testers, and supports teams throughout the automation lifecycle. The document records what the robot is designed to do, how the process currently works, what will be automated, what exceptions may occur, and how the solution should be maintained after deployment.

In this sense, the PDD acts as the robot's operational blueprint. It ensures that all stakeholders share a clear understanding of the process before development begins and supporting long-term reliability of the automation.

Table 1.1. Change History

Version	Last Updated	Description
1.0.0	Ernest Ng 8 June 2026	Initial creation and adaptation
1.0.1	Ernest Ng 11 June 2026	Updated order processing logic to validate outlet and supplier selections from the **`Jobs`** sheet before processing. Added handling to identify products requiring transfer based on the **`P2P Route`** column, and included exception reporting for transfer quantities that do not add up to zero, with manual override available where required.

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Table 1.2. Process Overview

Item	Description
Process Name	Inventory Management
Description	A periodic update from live inventory of stock in [REDACTED] retail outlets are pulled from the [REDACTED] system to the local [REDACTED] Excel file (herein termed "[REDACTED] File") as an internal tracker with mathematical formulas embedded to determine if ordering goods or transferring goods are required. The embedded formulas written in [REDACTED] File produce value indicators that act as the source of truth to order goods. In this sub-process, one must create Purchase Orders (PO) in the [REDACTED] system, download the PO, rename it, and send it to the vendor through WhatsApp based on the Contact List Excel file (herein termed "Contact List") with a personalized message, delete the PO from the machine's Download folder. Additionally, the [REDACTED] File contains value indicators that act as the source of truth for the sub-process Transferring goods by creating Transfer Sheets in Google Drive.
Process Schedule	On-demand
Complexity	Medium

2. AS-IS Process

This section outlines the current process. It includes the applications used, the existing process flow, and detailed step-by-step process maps to support a clear understanding of how the work is currently performed.

2.1 Applications used in AS-IS process

Table 2.1 contains applications and files used in the current process.

Table 2.1. Applications Used

S/N	Name	Environment	Comments
1	Excel	Local and Online SharePoint	COM Interop (GUI) interaction method (rely on the Excel application to access and manipulate data)
2	[REDACTED] System	Online	[REDACTED]
3	WhatsApp Web	Online	https://web.whatsapp.com/
4	Google Drive	Online	Requires backend API endpoint connection

2.2 Detailed Level Process Map

This section describes the current process at a detailed operational level, including the user actions, system inputs, key steps performed before automation, and anticipated exceptions that may occur. These exceptions refer to foreseeable situations beyond the user's direct control, such as missing files, system delays, access issues, or unavailable applications.

Table 2.2. Step-by-step mapping for AS-IS procedure

[REDACTED]

3. TO-BE Process

3.1 *Proposed Solution*

The proposed solution will be implemented as an **API-first hybrid automation**. The automation will use direct API connections, integration services, and programmatic file automation wherever technically feasible. Robotic Process Automation (RPA) will only be used for application steps that cannot be completed through a stable API, connector, or backend integration.

This approach is recommended because the process involves a combination of structured data processing, system interaction, file generation, and external communication. Excel, [REDACTED], and WhatsApp Web are currently used in the AS-IS process, with Excel acting as a key input and output medium. Where data can be read, written, transformed, or uploaded directly through code or service integrations, the automation should avoid UI interaction to improve speed, reliability, and maintainability.

RPA remains necessary for downloading [REDACTED] reports because [REDACTED] API v1 does not provide endpoint connections to generate the required Stock Balance Report and Stock Sale Report. As such, the automation must interact with the [REDACTED] user interface to navigate to the reports, apply filters, and download the required CSV files.

The automation will be executed as an **attended process** (triggered by user) because the process is performed on-demand.

Although the process can technically be designed to support **unattended automation**, attended automation is recommended for the initial implementation. This reduces operational risk while allowing for the process to mature and stabilize. Once the exception patterns are well understood, the process may be considered for unattended execution in a future phase.

The **robot** performing the **attended** automation will be developed with the name [REDACTED].

3.2 *Integration and Licensing Requirements*

As Google Sheets is part of the proposed workflow, direct cloud-based updating of the relevant Google Sheets files requires an authorized API connection. This connection must be established through Google's OAuth 2.0 authorization flow, which allows the automation to access the approved Google Sheets resources without requiring the user's Google password to be stored in the automation.

Through OAuth 2.0, the automation is granted controlled access using tokens and defined permission scopes. Applications accessing Google APIs need OAuth credentials, access tokens, and approved scopes to determine what resources and actions the application is allowed to use.

3.3 Applications used in TO-BE process

Table 3.1 contains applications and files used in the proposed process.

Table 3.1. Applications Used

S/N	Name	Environment	Comments
1	Excel	Local and Online SharePoint	COM Interop (GUI) interaction method (rely on the Excel application to access and manipulate data)
2	[REDACTED] System	Online	[REDACTED]
3	WhatsApp Web	Online	https://web.whatsapp.com/
4	Google Drive	Online	Requires backend API endpoint connection
5	Outlook	Online	For receiving exception reports and email summary of robot run

3.4 Detailed Level Process Map

This section describes the proposed process at a detailed operational level, including the user actions, system inputs, key steps performed before automation, and anticipated exceptions that may occur. These exceptions refer to foreseeable situations beyond the user's direct control, such as missing files, system delays, access issues, or unavailable applications.

Table 3.2. Step-by-step mapping for TO-BE procedure

[REDACTED]

4. Business Errors and Exception Handling

This section covers common business errors and how to handle them. Each exception includes the action, key parameters, and steps to resolve it, so processes run smoothly when expected issues arise.

Table 4.1. Recovery Actions for Business Rule Exceptions

S/N	Exception	Description	Resolution
1	Order quantity is invalid	Order quantity is negative, blank, non-numeric, or contains decimals where only whole units are expected	Create a row in the Exception Report and notify the user after the run
2	Vendor WhatsApp contact/group is missing for a Supplier with required order items	As described.	Create a row in the Exception Report and notify the user after the run
3	Transfer quantity does not add up to zero	Due to mathematical errors in the Excel sheet out of scope of the robot's processing	Override button at the start to perform manual intervention at the end. A report consisting of the SKU number of products where the transfer quantity does not add up to zero will be shared in the Email Summary to the user.

5. Error Log and Resolution

This section documents changes in the system environment or internal architecture of the robot script that caused certain parameters to fail. These issues often arise due to unforeseen factors not accounted for during development or an environment change in the applications used by the robot.

Environment changes can include updates to user interface (UI) elements (e.g. selectors becoming invalid), modifications to input data structures, or changes in folder or file permissions.

Table 5.1. Error Log and Resolution Tracker

S/N	Date	Error Description	Resolution Action	Date Resolved
1				

6. Approval and Sign-Off

This section confirms that the Process Definition Document has been reviewed and accepted by the relevant stakeholders before automation development begins.

By signing off this document, the process owner and project stakeholders acknowledge that the documented process scope, business rules, input requirements, output expectations, exception handling, assumptions, dependencies, and success criteria are accurate and complete to the best of their knowledge.

Approval of this PDD indicates that the automation team may proceed with solution design and development based on the requirements defined in this document. Any changes requested after sign-off may require additional review, impact assessment, timeline adjustment, or revision to the approved scope.

Role / Name(s)	Responsibility
Process Owner [REDACTED]	Approves the business process, scope, rules, and expected outcome
Solution Architect Ernest NG	Confirms technical feasibility, system dependencies, and design readiness

Accepted by:

[REDACTED]	**Ernest NG** Solution Architect Goru

(Please provide signature and date)

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