CASE STUDY:

Managing Ben Food's Interactions Across Their Warehouse And Supply Value-Chain

"Our warehouse operations team were maintaining a manual paper-based system to maintain our inventories for our premiums goods.

It was nearly a full-time job to support just one of our key warehouse functions."

- Ben Foods (S) Pte Ltd

CASE STUDY BACKGROUND

From the perspective of modern logistics systems, storage is an integral part of the logistics system.

In this brief case study, we will examine the warehouse management of **Ben Foods** which aimed for a more effective logistics warehouse, scientific management and control, so that their logistics system can function more smoothly and operations are more reasonable to run.

Country	:	Singapore
Industry/Sector	:	Food & Beverage
Benefits	:	Improved Warehouse Management
Status	:	Internal Deployment
Timing of Status	:	6-months - from first level discussion to prototype to deployment

ABOUT BEN FOODS

Ben Foods (Singapore) Pte Ltd, a subsidiary of QAF LTD which started its business in 1958 as a commodity trader in frozen meat, dairy products and even poultry farming.

Over the next two decades, it operated as a food distribution company with a strong emphasis on meat and commodity products.

Understanding its market is what **Ben Foods** best, with its focus on food trading, packing and wholesale operations.

PROJECT DESCRIPTION:
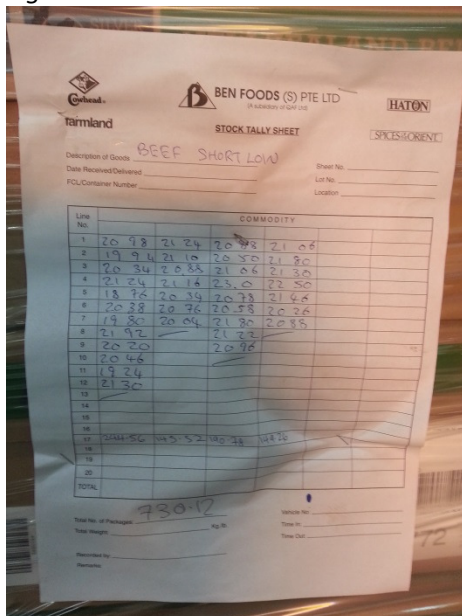
Figure 1:

Figure 2:

Figure 3:

ANALYSIS OF BUSINESS CHALLENGES

With expanding product representation and distribution internationally, **Ben Foods Singapore** was increasingly finding it challenging to support one of their key logistics function – warehouse cold chain management *(Figure 1)*.

Ben Foods has been relying on paper-based manual process in managing goods receivables and deployment which are not efficient and prone to errors.

Figure 2 and 3 illustrates the paper-based manual process of **Ben Foods** developed by their warehouse operations staff to manage warehouse rollout.

- A combination of verbal, handwritten and sometimes email and mobile alerts contained pickup requests, shipment details as well as stock takes and warehouse picking lists.

- Similar paper-based manual processes were used throughout each shipment lifetime, as a paper trail was assembled from handwritten lists to spreadsheet reports of various products their warehouse operations team accessed and handwritten onto carton.

- The handwritten stock taking and inventory lists were recently improvised to input handwritten information into computer spreadsheets which are then printed and posted onto pallets and cartons.

- Although this process resolved some human errors of recording or reading off handwritten information, manual stock take still took two to three days to complete per incoming shipment.

- In addition, there were several incidents of wrong information recorded and inaccurate computation of cartons/boxes which required stock recounts escalating to shipment and distribution delays.

Figure 4:

SOLUTION, GOALS AND OBJECTIVES

The automated process shown in *Figure 4* offers a striking contrast.

- It is fully automated, from the initial pickup request through to the posting of shipment, packing and distribution statuses from **Ben Food's** inventory tracking system.

- Today, their warehouse operations staff need only handle handheld barcode scanners to take stock, consuming 5–10% of their time (down to 2-3 hours per shipment).

- Automation has resulted in a 90-95% productivity improvement.

Figure 5:

DESCRIPTION OF APPLICATION

The process improvement benefits are significant and fall into three areas *(Figures 5 – 7)*.

- Incoming shipment are informed via email and backed up by mobile alerts.

- Warehouse Operations staff uses a barcode handheld scanner to verify the received stock. Any inconsistencies against the shipping is detected, otherwise it will be updated automatically within seconds to the store computer system.

Figure 6:

- Printed lists are also generated and posted onto the cartons, reflecting necessary product information.

- The stocks are then sent to the respective areas, e.g. cold room for cold chain management, room temperature storage, packing room (for sorting or repacking purposes).

Figure 7:

- Stocks in the individual storage areas are once again scanned with the barcode handheld scanners to ensure what received by them is correct as provided by their receivables list. Again, any consistencies are reported and rectified quickly.
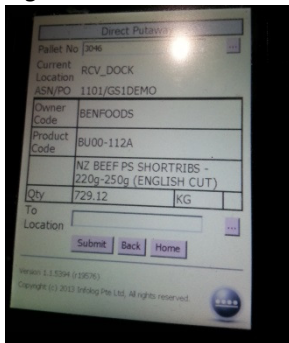
GS1 STANDARDS USED

- Global Trade Item Number (GTIN-13)
- GS1-128 for logistic units

Figure 8 (GS1-128 Barcode for logistics):

(01) 9 7350053850012 (3101) 000050 (10) 897A174

The package weight is encoded in the barcode

The barcode includes the package weight in kilograms with one decimal

The package weight is 5,0 kg

PARTICIPANTS INVOLVED:

END USER

Ben Foods (Singapore) Pte Ltd www.benfoods.com is a subsidiary of QAF LTD which started its business in 1958 as a commodity trader in frozen meat, dairy products and even poultry farming.

Today, ***Ben Foods*** represents a wide range of fast moving F&B products and supplies internationally.

Some of their house brands include Cowhead, Farmland, Haton, Orchard Fresh, Spices of The Orient and agency brands like Lamb Weston, Emmi, etc.

SOLUTION PARTNER

Infolog Pte Ltd www.infolog.com.sg simplifies operations by putting technology together such as RFID, RF Mobile Scanner, Pick To Light, Voice Picking Equipment with seamless integration with the clients' back-end ERP.

Infolog supports wide range of industry vertical such as F&B, FMCG, Electronics, Chemical, eCommerce, Fashion, Cold Storage, Retail Distribution, Haulage, etc.

SYSTEMS/PROCESSES WERE INVOLVED

GS1 Singapore Limited www.gs1.org.sg is part of a neutral, not-for-profit, international organisation that develops and maintains standards for supply and demand chains across multiple sectors.

With local Member Organisations in over 110 countries, **GS1** works with communities of trading partners, industry organisations, governments and technology providers and responds to their business needs through the adoption and implementation of global standards.

GS1 has over two thousand employees across the world, executing more than six billion transactions daily using GS1 standards.

ROI, LEARNING AND SUPPORTING DATA:

Figure 8:

Figure 9:

WHAT WAS ACHIEVED

The direct cost reductions have been sizeable *(Figure 8 & 9)*:

- After automating, manpower time and resources as well as mistakes were reduced.

- Shipment (Singapore to other countries) and distribution to local retailers were faster.

TIME SAVINGS:

Manual: 17 Minutes/Pallet
Using GS1 Barcode & Infolog WMS: 4 Minutes/Pallet
Saving: 13 Minutes/Pallet

20 Pallet/20' Container
1 Week=3 Container
52 Week = 156 Containers = 3120 Pallets
Saving = 40,560 Minutes = 676 Hours

Total Saving 676 Hours Per Year

Figure 10:

Figure 11:

Figure 12:

Figure 13:

ADVANTAGES

By returning the service to profitability:

• Automation enabled Ben Foods to drive top line growth by growing their product distribution channels.

The faster verification of incoming shipment translated to a shorter timeframe from warehouse to retail shelves to customers. In a retail world, the faster the goods are received, the faster it can move off the shelves and the faster the earning cycle moves *(Figures 10 – 13)*.

BENEFITS

Improved quality of their warehouse efficiency:

• Pickups are confirmed within moments after the email request followed by mobile alerts are received.

• Shipment statuses are updated within seconds and the key stakeholders are duly informed.

• Incoming and outgoing shipment are tallied using barcode scanning and tallied against shipping or inventory lists were accomplished within 2–3 hours vs the previous 2-3 days.

• The previous mistakes caused by human errors have largely reduced. Inventory inconsistency are also easily spotted and rectified.

• Feedback and complaints have significantly reduced from their retailers – their key customers and main market drivers.

The above inevitably translates to overall staff motivation as well.

NEXT STEPS:

Figure 14:

What is planned or envisaged as a "next step" for **Ben Foods** as a result of this experience

- They are now exploring fleet management system to prepare for enhanced supply chain visibility and traceability *(Figure 14)*.

- While they have not faced many product recalls, the company also wishes to be better prepared against partial or total recalls with an improved supply value-chain in place.

- Another challenge that they are facing is towards their cold chain management which their warehouse team felt that could definitely benefit from an enhanced system.

- To be able to leverage data for reporting and predictive modelling to improve efficiencies *(Figure 15)*.

Figure 15:

COMMON PRACTICE & ISSUES	RESULT
• Manual Recording of Packing Weight • Expiry Date • Batch Number During Receiving	• Low Productivity, Insufficient, Human Errors • Loss of Inventory
• Manual Assignment On Putaway & Picking Job	• Warehouse Space Not Fully Optimized • Pick Route Not Planned and Need Longer Picking Time
• Negative On Hand Inventory Level	• Lost Track of Inventory • No Real Time OHB Visibility
• Low Visibility of Stock Movement & Aging	• Loss of Inventory • Low Picking Throughout

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