

## KEEPING THE SUPERMARKET RELEVANT IN AN OMNI-CHANNEL WORLD

*ImpulseLogic is pleased to announce the release of SLIQ v2, a store performance solution addressing the post-Covid-19 challenges in food/grocery retail- California, July 12, 2020.*

### APPLYING STORELOGIQ (SLIQ) TO ADDRESS THE CHALLENGES OF A CHANGING LANDSCAPE

The traditional supermarket paradigm is under threat as the impacts of Covid-19 fundamentally redefine the food/grocery sector with omnichannel customer purchase options that saw online sales as a percentage of total store sales jump from 6% to 40% in less than 4 weeks. Projection in 2019 had online growth to 25% of store sales within 4 years, and the accelerated impacts of Covid-19 on growth saw online systems crashing, supply chains disrupted, and in-store shoppers facing compliance with a “new normal” social distancing when visiting stores.

Covid-19 validated the “now and future” need for stores to better accommodate omnichannel purchase fulfilment as an imperative. Before the pandemic, and at a time when planning took a forward view in years, rather than weeks, retailers contemplated omnichannel representing the potential move of center store non-food and packaged non-perishables assortments to non-store dark warehouses replicating the fulfilment capabilities of pure-play ecommerce providers, such as Amazon.

Recasting stores’ assortments to just fresh and perishables with everything center store available online from dark warehouses is simply too big a risk when the center store assortments deliver 50% of stores’ sales and 40% of profits. Exposing this level of financial performance contribution to the competitive threat of established online providers is not the answer.



Stores thrive on customer visits, whether shopping in-store or collecting an online order. Making the store a compelling environment to visit, even if just collecting an online order, maintains the potential for added impulse buys during the visit; a 10% contribution to sales lost if online fulfilment is deferred to dark warehouses.



Supermarket chains are not considered attractive for investment when mid-2019 the largest online retailer has a price: earnings ratio over 14.5 times higher than the largest US chain (removing the tech platform revenue). The online retailer’s performance exposes the advantages of its free cashflow and borrowing capacity to enable growth directly targeting the traditional supermarkets share of sector revenues that, post-Covid-19, are projected to see year on year growth near 12% when non-food retailers face negative growth for near 4 years. This retail sector will be the biggest target for accelerated competition from omnichannel providers at a time when the supermarkets are ill equipped to compete.

The sector is facing the greatest disruption in the 75 or so years of chain store existence, and offers the best risk / reward opportunity to those pursuing innovative change. This paper shows how SLiQ weaponizes the stores to compete, and win, against the threat of the pure-play ecommerce retailers.

### **THE CHALLENGES TO WEAPONIZING THE STORE**

Despite market growth from an increasing population, the traditional chains see ever tightening margins due to the impacts of market disruptions, such as;

1. The entry into the market of new “discounter” chains, that take advantage of well-managed supply chains supporting smaller store assortments/product ranges
2. The rush to offer an online capability in response to the entry of ecommerce providers into the sector that resulted in online orders being fulfilled from the salesfloor in the mistaken belief volumes would remain a small percentage of overall sales
3. Rationalization of stores’ staffing to the point where fewer staff are available to visually detect and replenish salesfloor facings before they go out-of-stock during the shopping day; a problem exacerbated by online fulfilment exhausting available inventory for the in-store shopper
4. Inability to assure salesfloor inventory covering the combined in-store and online customer fulfilment is increasingly difficult due to labor constraints, which pre-Covid-19 had in-day salesfloor out-of-stocks as high as 15% of the store assortment for hours at a time, even when availability exists in the store’s backroom
5. Central systems unable to differentiate between inventory on the salesfloor and that in the backroom. When out-of-stock on the salesfloor while stock exists in the backroom, the PoS transactions are no longer a reliable guide to demand, which, when combined with inaccurate inventory data directly impact the efficacy of demand forecasting

The question then becomes, “is meeting this challenge of relevance in an omni-channel world even worth attempting”. Well, yes, it is, and the following outlines some of the reasons why, and how they are achieved using a different store paradigm able to increase profitability while expanding a more loyal customer base. These define the design criteria applied to the v2 release of SLiQ.

### **FINANCING THE REQUIRED CHANGE IN THE STORE PARADIGM**

Addressing poor supply chain execution will finance the changing store paradigm, and it will start by focusing on the elimination of inventory distortion losses arising from all stores.

Inventory distortion losses are attributed to the collective impacts of store level over and under stocks to customer demand, salesfloor out-of-stocks when the products exist in the backroom, and poor labor practices controlling inventory movements within stores. IHL<sup>1</sup> has been tracking this problem since 2010, and as of mid-2019, inventory distortion losses across all retail run >\$1.3T annually; cited as 7.5% of store sales, with food/grocery likely higher.

When most retailers in the sector struggle to deliver 2.5% of sales to operating profit, reversing an inventory distortion loss equivalent to 7.5% of sales, will lift operating profit 4X. Addressing this problem will unlock the funding required.

### **MAKING THE STORE A COMPELLING “GO TO” BRAND**

Retailers in the sector must build a “brand” redefined by a store paradigm promoting loyalty to the customers “local” store. While difficult for the stores to differentiate themselves based on their

assortments when they broadly sell the same products, even with the impacts of Covid-19, there are options for improving the perception of the store in the eyes of the in-store shopper.

An obvious starting point would be moving online orders fulfilment away from the salesfloor to the backroom to ease aisle congestion and improve availability by eliminating the out of stocks arising from current salesfloor fulfilment. With social distancing imposed on in-store shoppers, no store can afford the luxury of restricting available aisles space by deploying store personnel fulfilling online orders. Stores want customer traffic, even if the customer might only visit the store to collect an online order. Just getting the customer to the store preserves the potential “impulse” purchases defined by the oft-quoted mantra of “70% of buying decisions being made while in-store”.



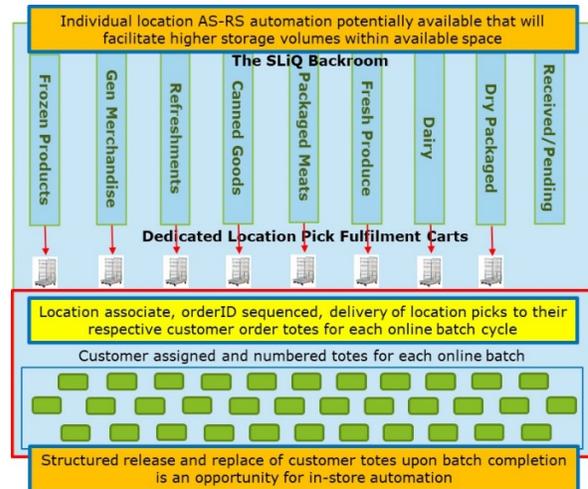
Retailers may be able to hold on to this impulse buy revenue by encouraging its online shoppers to be collect purchases from the store, rather than request home delivery. There are several ways this might be realized:

- Start by changing loyalty programs so they align customers with their “local” store; enabling “store specific” promotions to be communicated to customers of that store
- Ensure product availability; whether shopping in-store or online, and specific to the latter, eliminate all unplanned substitutions by verifying availability at point of order
- Facilitate “planned shopping” to be realized in a single store visit via online shopping list builds that prescribe the shortest/time/distance to achieve the total shop. In this way, the store is able to maximize footfall per hour when space utilization must accommodate social distancing
- Provide a light and bright environment with a less congested salesfloor making navigation easy, and products sourcing fast, wherever the customer might be in the store journey
- Never permit salesfloor out-of-stock occurrences when there is backroom product availability
- Maintain consistent store pricing with few, if any, product price surprises, while enabling store-based pricing to better align with the price expectations of the customer demographic
- Add compelling promotions; a mechanism successfully employed by the “perceived” discounters
- When, not if, the social distancing constraints ease, take advantage of Introduce “pop-up” departments of interest that might only exist for a short period, such as cooking demonstrations and training; offerings already evident in some of the supermarkets pre-Covid-19
- Progressively increase adoption of self-scan / self-checkout capabilities to eliminate checkout lanes that occupy space and impose queuing in the aisles
- Assure easy access to the store; whether to collect online orders or visit in-store
- Shift responsibility for customer product availability to the backroom team and away from the salesfloor, which will serve to reduce the number of salesfloor personnel to just those needed to build the “friendly and helpful” perceptions through better customer-facing support

## DEFINING THE CHANGED STORE PARADIGM

The key restructuring essential to maximizing return-on-inventory performance in a post-Covid-19 omnichannel food/grocery sector starts with a redefinition of the backroom as a competitive weapon. Historically, the emphasis has been to minimize backroom storage and focus on delivering all products to “on sale” status; this being a recognition of products being on the salesfloor and not in the backroom.

Starting with online orders sourcing from the salesfloor, was entirely workable while online order volumes were <5% of store sales. Stores had sufficient personnel available to execute the online order picks and also replenish those facings going out of stock due to these online picks. By mid-2019 this labor availability was no longer the case, as reductions in force were being universally applied in stores to reduce costs in pursuit of profit in the face of lower margin retention. Even with online orders at 7% of store sales, the available personnel could no longer replenish salesfloor inventory in response to facing counts being exhausted by online fulfillment; the outcome being in-day out of stocks on the salesfloor creating unexposed demand.



With 2019 analyses evidencing online orders growing to 25% of store sales within 4 years, salesfloor fulfillment of online orders is unsustainable and another way was needed. Then came Covid-19, which exposed the impacts of the 25% of store sales in 4 weeks, rather than 4 years. A different paradigm was needed; one where store inventory would be stored in a way that would optimally enable availability for both in-store and online purchases. The need to make the backroom the operational nerve center of the store was the genesis of SLiQ v2.

In order to create this backroom “virtual” warehousing, SLiQ starts with the store salesfloor planogram to create the salesfloor “map” exposing departments, facings, facing positions, and their minimum/maximum facing counts for the products retained in the facings. SLiQ then uses the salesfloor map to generate the backroom warehouse planogram to provide inventory storage optimally structured for the fastest access to products, whether fulfilling online orders or replenishing the salesfloor before products go out of stock. The SLiQ backroom is organized so all picks have a product address, and is “automation ready” when that step might be considered.

The SLiQ store paradigm delivers:

1. *Separation of salesfloor and backroom inventory management* – the essential starting point of a store restructure creating “order out of chaos” in the context of inventory visibility; that essential ability to “know” where every product can be found, and assure availability to cover customer demand within the product’s DC/supplier delivery cycles to the store.
2. *A different approach to the overnight replenishments to salesfloor* – here SLiQ applies AI and ML capabilities to analyze the demand separation between the coming day’s online and in-store purchases to ensure the required cover is available fulfilled from the backroom and in-store
3. *Near real-time salesfloor sell-through velocity tracking off facings using PoS data* – by starting the shopping day with accurate product item counts in each salesfloor facing enables PoS data to both decrement the product facing count and measure the sell-through velocity (demand by time).

SLiQ's velocity tracking can predict the time the first product in a salesfloor department will hit minimum count post last replenishment. This "triggers" a department "batch" picklist that includes all department products hitting minimum facing counts within the following 90 minutes; a labor gain mechanism reducing backroom replenishment journeys by a factor of 20

4. *Replicated "edge computing" to eliminate salesfloor out of stocks* – the use of the PoS data enables a replicated edge computing capability for salesfloor department inventory management. Without resorting to aisle located cameras, smart shelves, Bots in aisles, or sometimes mentioned, in-store drones, exploiting the existing PoS data source enables exposure of the time-to-minimum count on each product facing. With this intelligence, and with backroom supply availability, the system can automatically trigger tasks assignments replenishing from the backroom before products go out-of-stock on the salesfloor. With continuous salesfloor availability, the PoS data is restored as an accurate guide to product demand. As more shoppers are encouraged to self-scan and eliminate queuing in checkout lanes, there is the potential to detect the scan-out off the shelf and apply corrections at checkout where needed, which will achieve real-time inventory tracking off the salesfloor
5. *Continuous accuracy of backroom inventory* – with a "structured" backroom maintaining products in locations aligned with their salesfloor departments, the system generates prescriptive salesfloor department picklists from the backroom location, or sub-location, supporting supply to that salesfloor department. The tasks are tablet delivered and expose for correction all inventory count errors as part of the pick process. With progressively more accurate backroom inventory counts, accurate salesfloor counts, and a PoS data feed reflecting true demand due to continuous availability to the customers, the store becomes the accurate source of demand and inventory intelligence within delivery cycles to stores. These are the store derived datapoints essential to accurate central demand forecast planning, whose efficacy has been undermined to the extend where inventory distortion losses represent 3X operating profits in the sector
6. *Margin retention* – with inventory accuracy, along with assured salesfloor availability, the next area of attention is margin retention. Here SLiQ is able to exploit margin performance algorithms where emerging "store" over or under stocks dictate the need for a store-based price change; markdown or markup. These are SLiQ generated "intelligent" price changes that maximize margin retention, even when prices are lowered due to overstocks
7. *Optimizing DC/supplier deliveries to store* – in the SLiQ store paradigm, the backroom is the asset enhancing store performance, rather than a "storage of last resort". SLiQ is able to specify the backroom planogram to the supply chain so DC/supplier deliveries are aligned with each stores' unique backroom location structure, where each location supports supply to its assigned salesfloor departments while also accommodating online demand within delivery cycles to the store. This DC/supplier delivery alignment with the backroom locations reduces labor by eliminating bulk delivery sorting across multiple locations
8. *Improved workforce management* – with SLiQ, all workforce processes are executed in response to prescriptive task assignments triggered by system detected inventory events, e.g., emerging over or under stocks relative to demand, scheduled tasks, detected sell-by-date expiry, etc. There will no longer be the need for salesfloor personnel to engage in visual checking of inventory availability on the salesfloor or in the backroom. Labor utilization is optimized at every step, and no tasks generated unless essential to assuring availability to promise for customers.
9. *Redefined backroom processes that assure the future of food/grocery* – cognizant of the projected on-line growth, the potential of store deployed micro-fulfilment centers, (MFCs), was much

hyped, but isn't the answer where automation is being considered. SLiQ sees the need to execute hourly batches of 100 online orders where each may average 30 or so products, near 50 individual product picks (multiple items of a product), with as many as a 40% customer overlap of products ordered within the batch. Targeting fulfilment of 100 orders within, say, one hour, requires the ability to concurrently pick from all backroom locations so overlapping products are picked in a single pass from their specific location source. This cannot be achieved by traditional MFC offerings without creating excess inventory carry, which is counter to the objective of balancing supply with demand within supply delivery cycles to stores. Automation is to be considered, but only by creating multiple mini-location fulfilment capabilities where the automation is applied to each location. The challenge is available floor space, which dictates an approach able to utilize vertical space; something to be explored while starting with a manually executed backroom

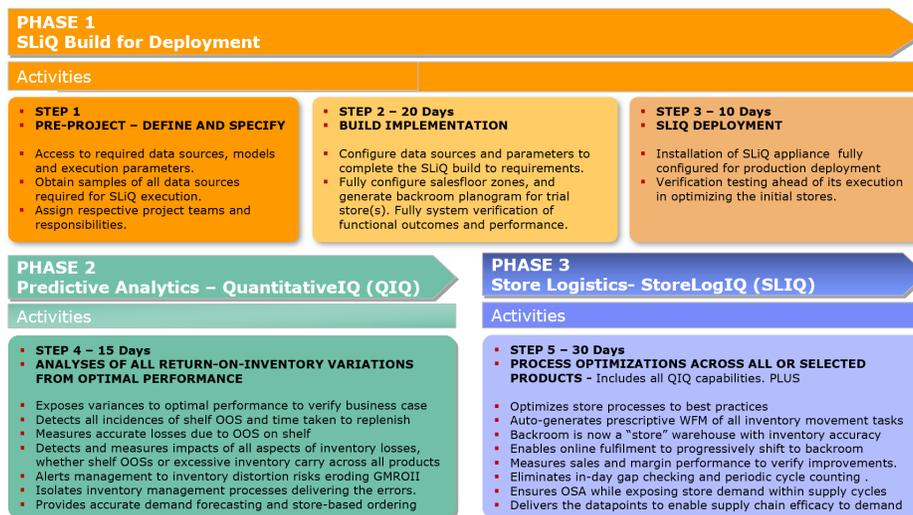
10. *A salesfloor delivering a compelling "go visit" salesfloor* – a salesfloor with only personnel dedicated to customer-facing support for the in-store experience. With the backroom personnel responsible for all inventory movements of all types, salesfloor personnel are no longer responsible for gap checking and facing replenishments, which currently occupy most of the personnel time. The number of salesfloor personnel is reduced to eliminate unnecessary aisle congestion impacting social distancing. New innovations of interest to customers might be introduced to add positive incentives for store visits, which, over time, build loyalty to their local store. When 48% of online orders collected from store result in a customer visit to the salesfloor, the compelling positive store experience becomes critical to financial performance

SLiQ delivers "dark warehouse" in the store backroom; one supplying consistent, and available, quality product to the salesfloor and to online orders fulfilment, without involvement of salesfloor personnel.

SLiQ's real-time exposure of accurate demand and store inventory count datapoints, within DC/supplier delivery cycles, adds precision to the central demand forecasting and supply to stores. These are the essential datapoints enabling the supply chain to balance product delivery counts with demand within delivery cycles; the essential ingredient to eliminating inventory distortion losses.

With SLiQ's enforcement of standardized best practice processes applied across all stores, central management now has uniformly measurable intelligence on stores' performance, which, for the first time, facilitates the ability to improve competency of stores' management and personnel.

### ENABLEMENT WITHOUT REQUIRING CHANGES TO EXISTING SYSTEMS



SLiQ executes in the Cloud separate to the existing retail and supply chain systems already in operation within the retailer. It functions by accessing existing systems' data sources to extract the data elements required for SLiQ execution without changes to the existing systems and "read-only" access.

SLiQ executes to deliver optimized store performance that reduces labor cost by a third while reversing most, if not all, inventory distortion losses by exposing accurate demand and inventory count positions. The ability to deliver accurate datapoints on demand and inventory carry upstream to the central demand forecasting enables the supply chain to balance supply with demand within delivery cycles. Add maximized margin retention and the combination delivers optimal return-on-inventory.

<sup>1</sup>IHL Group (<https://www.ihlservices.com>), is a US based research and advisory firm providing guidance for retailers and retail technology vendors, with particular emphasis on supply chain and stores operations