



Case Study

Independent Purchasing Cooperative/Subway

Inventory management solution helps eliminate pain for more than 24,000 restaurants across North America using GS1 Standards

Challenge

Many franchisees in the North American Subway network once shared the pain of time-consuming weekly inventory. The manual procedure was even more onerous when frequent discrepancies arose between stock, orders, and invoices that required troubleshooting and reconciliation.

Solution

An inventory management application based on GS1 Standards transformed a several-hour weekly ordeal into a more accurate, automated system that now only takes minutes. Because the Independent Purchasing Cooperative (IPC), the procurement arm for Subway's North American restaurants, and Subway had [already built a foundation for traceability](#) that included the adoption of Global Trade Item Numbers (GTINs) and Global Location Numbers (GLNs), as well as sharing master data via the Global Data Synchronization Network™ (GDSN®), the vast network of suppliers, distributors, and restaurants were poised to communicate seamlessly over a platform using the “global language of business.”

Benefits

- **Operational Efficiency.** With thousands of restaurants and hundreds of suppliers and distribution centers in the North American Subway ecosystem, the use of GS1 Standards for inventory management (IM) allows all supply chain participants to share “one version of truth” in a common digital language, delivering increased accuracy that benefits everyone, including guests.
- **Food Safety/Brand Protection.** Products labeled with GS1-128 barcodes leave no doubt as to the proper handling of food products for all supply chain partners. Barcodes that have date and lot information encoded help distribution centers (DCs) to be more accurate and efficient in their stock rotation, avoiding expired or short shelf-life product deliveries, which are costly to all. GDSN data helps DCs reference a single, consistent data source for shelf life and storage temperature information, ensuring proper food handling.
- **Cost Savings.** GoVentory - white-labeled for IPC as SubVentory - has driven tens of millions of dollars in cost avoidance due to labor efficiencies and has maximized savings by reducing waste, minimizing shrinkage from theft, and right-sizing inventory.

Serendipity Strikes at Subway

When Daniel Riscalla purchased his first Subway restaurant franchise in 2010, he immediately saw the need for back-office technology that would help him – and thousands of other franchisees – conduct store inventory in a more efficient way – a pain point in store operations worldwide.

“I remember the first time I did my weekly inventory in the restaurant. I was looking at the cases on the shelves, asking myself ‘Why am I holding a paper and a pen to count the inventory? I see barcodes on cases, and I have an iPhone with me,’” Riscalla says.

Because of his background in technology and software development, Riscalla’s entry into the Subway family was fortuitous. He founded a software and hardware solutions company, ZippyYum, and set out to create what is *GoVentory* today, an inventory management application for foodservice operators. It is used by 98 percent of the more than 24,000 Subway restaurants in the U.S. and Canada under the SubVentory moniker.

Hands-on Inventory

Before *GoVentory*, Subway franchisees took inventory by going to the restaurant’s coolers, storerooms, and storefronts and writing down what they had on-hand. This handwritten list was typed into the point-of-sale (POS) system. But that was just the beginning of an onerous process of properly conducting inventory in a Subway restaurant.

The leaders at Independent Purchasing Cooperative (IPC) were aware of the pitfalls and bottlenecks. Some owners might only count high-value products, for instance, which could result in food costs varying significantly from week to week.

“Conducting Inventory would take a good two to three hours per restaurant per week, assuming there weren’t any mistakes,” said Rick Buttner, senior director of supply chain operations at IPC. “You had to pull pricing from your latest invoices and add up all the dollar figures. If your food cost was way off, you had to go back and find the mistakes. It was a painstaking effort. Now, it only takes 15 minutes per week on average.”

Build Your Own with Standards at the Core

Just as Subway restaurants encourage patrons to customize their orders, franchisees are free to choose the processes, systems, and technology they use. A complicated supply chain is inevitable with this much autonomy within the world’s largest restaurant chain spanning more than 100 countries. The level of interoperability and scalability needed to make sense of it all would be impossible without GS1 Standards at the core of the IPC/Subway operations.

IPC has used GS1 standards for over a decade, ultimately requiring vendor adoption as part of their contractual agreements in 2014. With IPC purchasing everything from lettuce to mop heads to spatulas on behalf of franchisees, *GoVentory* also had to conform if it was to be used to simplify and streamline, rather than adding another layer of complexity to an already vast and complicated ecosystem.



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Senior Director of Supply Chain Operations, IPC

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Talk to Me

Today, all participants in the supply chain communicate using a single common digital language over GS1’s Global Data Synchronization Network (GDSN) – the world’s largest product data network. Suppliers publish master product information, and all supply chain participants use that same data to populate their own systems, including *GoVentory*. Unique GS1 identifiers, such as Global Trade Item Numbers (GTINs) and Global Location Numbers (GLNs), allow disparate systems to accurately pinpoint restaurants, DCs, suppliers, products, and plants. Communications in *GoVentory* are two-way, with distributors supplying order guides and invoices and restaurants placing new orders through the app and uploading the inventory to the Subway POS.

“We have access to real-time rich data every day,” says Riscalla. Today, he is senior director of technology at Avery Dennison, a certified GS1 US Solution Partner, which purchased ZippyYum in 2021.

Inventory Management Made Simple and Accurate

Using a mobile phone, *GoVentory* allows the franchisee to scan GS1-128 barcodes that contain GTINs and additional encoded product attributes, including batch/lot number, and expiration date. The software can accommodate both manual inventory counts or scanned barcodes – or even a mix of the two.

“Without visibility into restaurant inventory, we’re flying blind. When restaurants order more than they should, it does two things: it supplies misleading data as to what is being purchased and when, which has a ripple effect on future orders, and the franchisee can wind up with leftover inventory that goes to waste. That’s an unnecessary cost,” Buttner says. “Knowing inventory all the way through our supply chain is essential to really managing our inventory properly.”

For instance, when pack sizes are published to the GDSN, accurate insight is gained into product volume, which illuminates the rate of consumption for limited-time offer (LTO) items. Vital to any foodservice operator is freshness. When a GS1-128 barcode is scanned, product delivered outside optimum shelf life with impending expiration dates is flagged, so proper action can be taken. Comparisons of ordered quantity to invoiced quantity are also greatly enhanced when the order arrives at the restaurant. The invoice is already in *GoVentory* and the restaurant can validate the delivery against the invoice, a process that now only takes minutes.





“Most distributors engage with the GDSN for their electronic order systems. They want pictures. They want correct information about products, so they are very willing to engage with the GDSN for the extensive product information it provides,” Buttner says.

Small Business, Huge Benefits: Made Possible by GS1 Standards

“Technology needs to answer real business problems and it depends on accurate, standardized master data as a foundation. GS1 Standards supply that.”

Daniel Riscalla
Senior Director of Technology, Avery Dennison

GoVentory also has a suggestive ordering module that calculates how much a store needs to order based on heuristics, history, and consumption and facilitates direct ordering from a DC. Increasingly, IPC is converting the suggestive ordering module to predictive ordering that can consider things like last year’s weather, recent weather, or special events in the area that can affect consumption. This capability will be a game-changer for many franchisees, regardless of size.

“The flexibility of SubVentory, coupled with accurate master data built on the foundation of GS1 Standards, is particularly important to the small business franchisee who may not have the time nor the training to deal with sophisticated forecasting,” says Buttner.

“Besides all the labor savings and other benefits, franchisees and managers can now spend more time improving the customer experience, instead of doing inventory and all the other activities that go along with it. ... Using standardized data, we can better predict and offer what our guests want.”

Rick Buttner
Senior Director of Supply Chain Operations, IPC

A Consistent Eye on Quality, Food Safety

While *GoVentory* does inventory, ordering, and forecasting, another legacy platform called QualityNet is used for quality-complaint management. If lettuce arrives looking wilted, QualityNet routes the complaint to the proper DC and supplier to obtain credit. Barcodes have date and lot information encoded that help distribution centers (DCs) and franchisees access the information needed for better management of expirations and shelf life.



It made sense to piggyback QualityNet onto the *GoVentory* platform, so franchisees could utilize a single platform for both inventory and quality control. As a result of the integrated efficiencies with QualityNet, the call center that once logged complaints has since become integrated into the *GoVentory* system, thereby enhancing overall automation and minimizing manual effort.

Maintaining data integrity using GS1 Standards is not only beneficial when adding new products to the menu, but it's also helpful when removing products that are no longer used or served. Following GTIN Allocation Rules, a new GTIN must be assigned whenever Subway creates a new formula. "Adhering to GS1 Standards has helped us establish an accurate process for sunsetting items and managing product transitions. IPC's supply chain location and product data clean-up effort has reaped many benefits, including avoiding a complaint to be routed to the wrong manufacturer," says Priyanka Jindal, senior program manager at IPC.

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Priyanka Jindal
Senior Program Manager, GS1/GDSN & SubVentory, IPC

GoVentory also provides an alert for product withdrawal, should operators be notified of a recall. Anyone opening *GoVentory* must acknowledge the alert and enter the impacted inventory by scanning the GS1-128 barcode or typing in the information. IPC can also reach out to franchisees from within the app to send notifications to their cell phones.

"Besides all the labor savings and other benefits, franchisees and managers can now spend more time improving the customer experience, instead of doing inventory and all the other activities that go along with it," Buttner says. "We need accurate and speedy inventory management to serve the best quality food to our guests and remain cost effective with less inventory at the restaurants. Using standardized data, we can better predict and offer what our guests want."

A Lot of Lettuce

GoVentory has maximized savings by reducing waste and by right-sizing inventory. IPC estimates that labor efficiencies alone exceed \$70 million each year in cost avoidance in North America. Tangible dollar savings estimates do not capture the intangible brand enhancements that accompany high-quality data.

With the backing of Avery Dennison, a certified GS1 US Solution Partner, developers are exploring the introduction of radio frequency identification (RFID) at the case level as well as introducing artificial intelligence (AI) into the *GoVentory* system. This is projected to save additional labor costs and increase accuracy and traceability by further automating the inventory process. Data is captured by "sweeping" the RFID scanner within a specific distance. When combined with other Avery Dennison proprietary platforms, event tracking will deliver an automated approach to true "farm-to-fork" traceability.

"We're looking to take a more automated approach to traceability, making it easier for everyone," Buttner says.



GoVentory's visual interface simplifies complex manual processes, while still catering to the power user.

Menu of Advice



Vision & Commitment

“Don’t be satisfied with the status quo. You must look ahead to what’s going to improve things. As soon as you get comfortable with the status quo, you’re behind,” Buttner says. And for those who lack the vision needed to future-proof operations, both Buttner and Riscalla recommend partnering with experts and relying on industry resources such as GS1®.



GS1 Standards

“For anyone seeking an inventory management system, you must be rooted in GS1 Standards because it’s the only way you’ll ever make progress,” Buttner says.

“Technology needs to answer real business problems, and it depends on accurate, standardized master data as a foundation. GS1 Standards supply that,” Riscalla says.



Innovation

Accept that the adoption of technology may change the way things are done. Riscalla cautions against “tail wagging the dog” technology. “Technology can do anything you ask of it; technology should serve the business, not impose restrictions on how you operate your business.”



About the Organizations



About IPC/SUBWAY

IPC is an independent SUBWAY® franchisee-owned and operated purchasing cooperative. The company negotiates the lowest costs for purchased goods and services and is responsible for the supply chain processes for the more than 20,000 Subway restaurants in North America. IPC provides a system to enable full supply chain visibility to optimize its operations and is focused on ensuring food safety for Subway guests and finding business efficiencies that end-to-end traceability brings. www.ipcoop.com



About Avery Dennison

Avery Dennison (NYSE: AVY) offers a suite of digital ID technologies that authenticate product history, provide tracking and inventory solutions, and enable rich consumer encounters. In a world of Big Data and massive amounts of information, digital ID technologies help create certainty. With a combination of materials expertise, innovation, a global footprint and the use of end-to-end technologies, Avery Dennison partners with companies across multiple industries (from food and apparel to beauty, aviation, automotive, and pharmaceutical), to connect the physical and digital worlds. Avery Dennison acquired ZippyYum in 2021. www.averydennison.com



About GS1 US

GS1 US®, a member of GS1® global, is a not-for-profit information standards organization that facilitates industry collaboration to help improve supply chain visibility and efficiency through the use of GS1 Standards, the most widely used supply chain standards system in the world. Nearly 300,000 businesses in 25 industries rely on GS1 US for trading partner collaboration that optimizes their supply chains, drives cost performance and revenue growth while also enabling regulatory compliance. They achieve these benefits through solutions based on GS1 global unique numbering and identification systems, barcodes, Electronic Product Code-based RFID, data synchronization, and electronic information exchange. GS1 US also manages the United Nations Standard Products and Services Code® (UNSPSC®). www.gs1us.org

About Foodservice GS1 US Standards

Organizations can get involved in the Foodservice GS1 US Standards Initiative and partner with the foodservice industry to identify and overcome challenges using GS1 Standards. Today, more than 130 foodservice manufacturers, distributors, operators, associations, and others are working together to help address challenges where GS1 Standards can have a positive impact, including driving efficiency across the supply chain, providing complete and accurate product data, and meeting traceability demands. For those interested in joining the initiative, [submit an application here](#).

About Global Data Synchronization Network (GDSN)

The Global Data Synchronization Network (GDSN) is an internet-based, interconnected network of interoperable data pools governed by GS1 standards. The GDSN enables companies around the globe to exchange standardized product master data with their trading partners. The GDSN is used as a tool to support high data quality through use of authoritative data sources, real-time data synchronization, and standardization of data formatting. The GDSN operates using a publish-subscribe pattern between two trading partners, each of which are registered with and access the GDSN via a data pool. The GS1 Global Registry acts as a directory to point to the data pool where data is housed and matches subscription to registrations to facilitate synchronization. www.gs1.org/services/gdsn

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*If applicable

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