STAHLS' Fulfill Engine Case Study: Topshelf Printers

CASE STUDY SUMMARY

The Challenge: Topshelf Printers needed a scalable solution to handle on-demand production and fulfillment for its growing customer base, which includes both small businesses and large enterprises.

The Solution: The shop implemented Fulfill Engine, which integrates with various ecommerce platforms and automates the entire order management process using QR code scanning and streamlined workflows.

The Result: With Fulfill Engine, Topshelf significantly improved efficiency, reduced shipping costs, and enhanced customer service by consolidating orders and automating manual tasks, allowing the team to scale their operations from 6,000 items a month to 25,000 and counting to meet increasing demand.

STAHLS' Fulfill Engine

Topshelf, established in 2010, started as a bulk contract decorator specializing in screen printing and embroidery, and later expanded to include DTG printing, laser engraving, and heat-applied products.

By 2015, owner Dan Freismuth identified a growing demand for on-demand production and fulfillment. "We used to hold a huge printed inventory and ship out individual items," he explains. "However, our customers increasingly wanted an on-demand solution where their employees could order from an ecommerce page, and we'd handle printing and fulfillment directly to the buyer, with no extra effort on their part."

A REAL 'FRANKENSTEIN' OF A SYSTEM

To address this need, Topshelf started by cobbling together a homegrown system. "There just wasn't a true solution to funnel all of these orders into an order management system for us to do on-demand production," Freismuth says. "Instead, our clients were creating stores using Shopify or other webstore platforms to create and sell products. Then, we'd get a CSV file of 5,000 individual one-off orders that was almost impossible to integrate efficiently into our order management system."

Freismuth also tried using shipping software to integrate into his customers' Shopify stores to automate orders coming into the shop. "But again, we encountered an external batching

process that added steps," he says. "Plus, every webstore or sales channel required different and complicated workarounds. While the Topshelf team could set rules and push orders through different departments, there was still a big gap and learning curve for staffers to understand all of the moving parts."

"A human could 'mess up' by moving an order to the wrong folder or using the wrong naming convention for an art file," Freismuth says. "We also didn't have an efficient way to produce and ship an order that included an embroidered item, a DTG item, and a heat-applied product. We had a real Frankenstein of a system."

Freismuth's biggest obstacle to scaling and serving more customers was that the shop's system constantly "broke down" at 6,000 units a month. "We were on the hunt for software that would actually work and allow us to scale," he says. After countless phone calls with software reps, he finally found a better solution when a client referred him to Fulfill Engine. "During the initial demo, I immediately saw that the software checked every box for our needs," he says.

HOW FULFILL ENGINE REVOLUTIONIZED TOPSHELF'S ON-DEMAND PRODUCTION

Topshelf shifted from a cumbersome, homegrown system to a streamlined, automated process with Fulfill Engine, enabling efficient order management, seamless integration with ecommerce platforms, and significant operational improvements.

FROM CHAOS TO CONTROL: TOPSHELF'S JOURNEY WITH FULFILL ENGINE

Topshelf overcame the challenges of managing on-demand orders with a patchwork system, achieving automated fulfillment and enhanced efficiency with Fulfill Engine, while also reducing errors and improving scalability.

SCALING SUCCESS: TOPSHELF'S SEAMLESS INTEGRATION OF FULFILL ENGINE

By integrating Fulfill Engine, Topshelf scaled its on-demand business, automated complex processes, reduced order errors, and improved customer satisfaction through efficient order management and consolidated shipping.

TOPSHELF'S TRANSITION TO ON-DEMAND PRODUCTION WITH FULFILL ENGINE

Moving from a homegrown order management system to Fulfill Engine, Topshelf streamlined its fulfillment processes, reduced errors, integrated with various ecommerce platforms, and achieved efficient, scalable operations.

A SOLUTION FOR ALL SCENARIOS

Freismuth says Fulfill Engine's "real magic" is that the solution can handle all of the variable integrations from their clients' stores, no matter what platform or business model they have. "From a local pizza shop ordering staff shirts to a large corporate client needing branded gear on demand or 50,000 shirts for an annual event, we offer seamless, automated platforms for easy access and delivery."

Fulfill Engine offers a variety of integration options to suit different business needs, starting with its Shopify integration. "Connecting an existing Shopify store to Fulfill Engine is now a quick 10-minute process," Freismuth says. This ease of setup means that orders from Shopify stores automatically integrate into Fulfill Engine, allowing for efficient product sourcing, production, and fulfillment without requiring additional actions from the Shopify owner. "This automation significantly reduces the workload and ensures that the fulfillment process is smooth and error-free," Freismuth says.

Another robust feature of Fulfill Engine is its white label solution, which provides a highly user-friendly platform for building client stores. "The process of setting up a store can be completed in about 30 minutes, including adding branding elements, selecting items, uploading art files, and setting prices," Freismuth says.

Additionally, the white label platform includes fundraising capabilities, enabling clients to easily add markups for fundraising purposes. The system automates the monthly distribution of funds via ACH, which simplifies the financial management for clients running multiple stores with varying fundraising goals. "Our fundraising solutions provide an easy, scalable way for organizations to raise money by offering branded products instead of traditional methods," Freismuth says. "This approach ensures supporters get something they actually want while making the process seamless and efficient."

Fulfill Engine also caters to different levels of client involvement in store management. For clients without industry experience, Topshelf's account managers offer a full-service option, assisting in product selection and store setup. Freismuth's team categorizes these as "Topshelf Managed Stores," where account managers guide clients through the entire process to ensure they meet their standards and needs. Conversely, experienced clients who are familiar with industry products can independently access Fulfill Engine to build and manage their own stores. "With a catalog of over 3,000 items, these clients have the freedom to make their own product choices and manage their stores as they see fit," Freismuth says.

Topshelf also integrated Fulfill Engine into its

existing 3PL operations to streamline inventory management and on-demand orders. The software allows for easy tracking of items that can't be produced on demand, such as lanyards, stickers, and pens. "Fulfill Engine allows us to handle 3PL items and on-demand production within a single system," Freismuth says. When an order includes both types of items, the software coordinates the team's production and shipping, consolidating them into one package. "This process saves our customers significant shipping costs, and also reduces service issues by avoiding multiple shipments," he says.

A FLAWLESSLY EASY IMPLEMENTATION

Implementing Fulfill Engine was a remarkably smooth process for the Topshelf team, completed in just one day. "The transition brought smiles from all of our staff members because we automated many of their manual tasks using QR code scanning," Freismuth says.

Setting up each station — from receiving, to decoration and production, and shipping — was straightforward, making the entire process flow effortlessly. With comprehensive documentation and user-friendly instructions, the setup was completed quickly. "The QR code-based system streamlined our entire workflow, making it highly scalable and easy to train staff members, ensuring a consistent

TOPSHELF PRINTERS

Shop Stats: Topshelf Printers

Location: Greeley, CO

Website: TopShelfPrinters.com

Founded: 2010

About: Topshelf Printers is a branded merchandise provider that specializes in high-volume and on-demand ecommerce production and fulfillment.

Annual Revenue: $8.5 million

Garments Produced Yearly: 300,000

Managed Online Shops: 480+

Employees: 90 (Shifts fluctuate based on volume)

Facility size: 58,000 square feet

Primary Industries Served: Corporate, Ecommerce Retail, Construction, Service, Restaurants

Products and Services Offered: Apparel Decoration, Promo Products, POD, Webstores, 3PL, Fulfillment (one-stop shop for branded merch needs)

In-House Decorating Equipment:
- 7 Automatic Screen-Printing Presses
- 50 Embroidery Heads
- 2 Kornit DTG Printers
- 2 Roland Vinyl Printers
- Heat Presses
- Laser Engraving

How The Shop's Using Fulfill Engine: Fulfill Engine is the order management system that runs the on-demand side of Topshelf Printers' business, creating systematic automation for in-house print on demand and 3PL production and fulfillment. The primary sales channels used are direct Shopify integrations and white-label webstore building, both self-service and in-house webstore management.

and efficient operation as our business grows," Freismuth says. "We haven't experienced any blocks as we continue to scale."

Freismuth notes that before implementing Fulfill Engine, he couldn't have imagined producing more than 6,000 items a month. "Now, we're at 25,000 and it feels like we're operating with a flowing machine where we could easily double that," he says. "Before, it was way too easy for an item to get into 15-day territory. If I get a client this morning who needs a webstore up and running so people at an event on Friday can order shirts, no problem. The store will be live this afternoon."

A NEW START FOR SHOP STAFF

Before implementing Fulfill Engine, Topshelf faced numerous challenges with their manual processes. Freismuth's staff had to manually source hundreds or thousands of products from different suppliers and then process orders through an internal order desk. "This involved breaking down large batches of items into individual orders and labeling them accordingly," he says. "Orders flowed through the facility as individual items, making it difficult for us to track and manage them efficiently through various decoration methods and machines. It was truly like trying to find a needle in a haystack. The lack of a streamlined process created bottlenecks and inefficiencies, making scaling difficult."

To date, Topshelf now has 480 different webstore integrations connected to its Fulfill

Engine software. "That's nearly 500 different instances of a sales channel, whether that's Shopify, white label, or something else," Freismuth says. "All of those orders come into a batch every single day and Fulfill Engine automatically sources those products for us from apparel suppliers."

Fulfill Engine's QR code-based system transformed the shop's operations, making it easier to manage orders and track items throughout the facility with 100% visibility. "It's truly systematic using QR code scanning to get the order in and out of our facility," Freismuth says. "The biggest magic point in this area is that we can decorate different items and then have them come back together to ship with a label we can print out at the end." When bagged items arrive at the Topshelf facility, staff at the receiving station simply type in the bag's purchase order number and then print out the attached QR codes as labels. "They attach a QR code to the corresponding item," Freismuth says. "From there, they scan the barcode that tells them where the item needs to go for decoration, whether it's embroidery, direct-to-garment printing, or direct-to-film (DTF) transfers. You can see where an item is at all times and never have to run around the building looking for it."

Since DTF transfers are one of the newer and most popular heat-applied decoration options, Fulfill Engine also automatically orders and ships DTF transfers from STAHLS' to Topshelf, along with the apparel blanks. "That has also been an absolute game-changer for us, since

PICK A SHOP OWNER'S BRAIN

Q: How versatile is Fulfill Engine for different types of businesses?

Dan Freismuth: It's incredibly versatile. Whether you're a stay-at-home mom with a heat press in your kitchen or running a multimillion-dollar facility like ours, there's a solution within this software for everyone. For instance, if you have a heat press and know someone at a large corporation, you can pitch them, build a store, and never produce a single item yourself by outsourcing production to Fulfill Engine's network of vetted decorators. It's pretty cool.

Q: Do you have any advice for someone resonating with your experience, particularly if they're handling 6,000 or fewer pieces a month and want to scale?

DF: Let's scale it down even further to a shop that might at zero units a month coming from on-demand. This software makes it possible for traditional screen printers, embroiderers, and hobbyists to easily create that new sales channel within their business. When orders come in, Fulfill Engine provides a systematic solution to produce and fulfill those orders. If the order is outside your capabilities or too large, you can source it to Fulfill Engine's decorator network and still make the sale.

Q: Can you give an example of how someone could pitch to a large company for an on-demand store?

DF: Absolutely. With Fulfill Engine, you could walk into a company with your samples, build them an online store, and manage everything without producing a single item yourself. The platform has the ability to route your orders to a vetted network of shops like ours to produce and ship your items to your customers. That way, you can still serve the client and make a profit even if you don't have the square footage, equipment, or staff to manage higher volumes right now. Fulfill Engine is a game-changer for expanding your business opportunities!

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we don't have to invest in a DTF printer," Freismuth says. "Both a garage shop with a single heat press or a shop like ours that's pushing high volumes can scale this way."

When a shirt arrives at one of Topshelf's heat-press stations, the operator scans the QR code and grabs the corresponding transfer from STAHLS'. "The heat press also shows a mockup for the correct placement," Freismuth says. "After that, the operator checks the system, which indicates whether the item needs another decoration method or whether it's ready to ship as a single item or to be grouped with others."

If an order is ready to ship, Fulfill Engine automatically generates a shipping label based on the client's preferences that an account manager set up in the beginning. For multi-piece orders with different decoration

methods, the software tracks each item. Completed items are scanned and placed in a designated bin until the entire order is ready. "Once the last item is scanned, the system directs the staffer to retrieve all items from the bin, ensuring nothing gets lost," Freismuth says. "This process is consistent for both single-item and multi-item orders."

At any point in time, if a staffer sees a delay in an order that's butting up against the service level agreement, Fulfill Engine shows exactly where the missing item is. "For instance, if six items are in bin 67 and one is still at the embroidery station, I can address the issue immediately," Freismuth says. "We can see all upcoming orders and then drill down to the last scan point of a single item." The system also simplifies handling defects. "If we find a defect, like a hole in a t-shirt, we scan the QR code, and the system automatically reorders it and prioritizes the replacement, expediting the process with a different color QR code that pushes the item to the front of the line."

Now that staffers enjoy an automated system, they can focus on more functional tasks and fine-tune their workflows to increase productivity. "They're saying, 'If I live at this heat-applied product station, what little things can I do to get 20 more units out the door?'" Freismuth says. "That wasn't even an option before."

LOOKING TO THE FUTURE

For Topshelf, Fulfill Engine allows the team to offer on-demand production services to every customer. That's why Freismuth and his team have an eye on scalability.

"We're always going to have customers who need 5,000 or 10,000 printed shirts on our bulk business side," he says. "But as the on-demand side continues to grow, we have a way to answer that need. We don't even know what our peak is yet, so we have lots of room to grow with Fulfill Engine, which continues to be our order management system that runs 100% of our on-demand production and fulfillment."