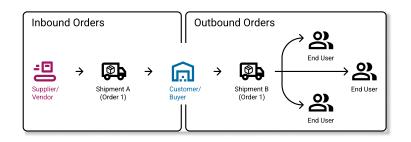
[Order #] Share External Tracking Supplier AAA111 Portal < Compass Shipments Orders 🗸 Load Board Analytics Dispatch 9 Orders Q Search for Orders NEED READY ON SHIPMENTS DELIV ROLE Order ▼ PO # Order Name Order Type Lead Product Designer UT23PL ORD123 Purchase Orde Test Order 1 Not Ready St. Charles, LA nner. LA P91BC3-1 ORD123 Purchase Order Test Order 1 Filled Ŧ **PLATFORM** 034NM1 ORD789 Purchase Orde Test Order 3 Cancelec 2 Web UT23PL-1 Wed Aug 16 at 08:00 to Wed Aug 16 at 17:00 ORD111 Purchase Order Test Order 4 Ready 839 LB Location: City, S ÷ ed Aug 23 at 08:00 Y55DF3-1 0 ORD222 Left Pick Purchase Orde Test Order 5 Assigned

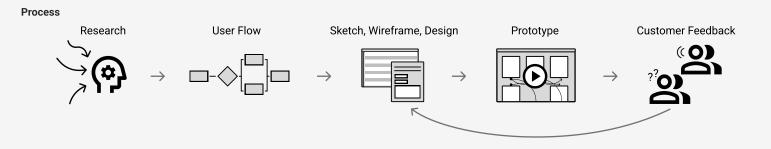
Background

In Shipwell and the freight industry, a shipment is made up of one or more orders. Orders can be inbound or outbound. An outbound order focuses on demand and goes from the customer(our user) to the end user. An inbound order focuses on supply and goes from a supplier/vendor to the customer/buyer(our user). Shipwell has a strong set of features focused on outbound orders.



Our users needed a way to manage their inbound orders. This meant having a way to collaborate with their vendors and coordinate how much product from their purchase orders (PO) was going to be shipped and when. Since suppliers were not on the platform it meant all communication was happening via other tools, email or phone calls. That left a disconnect between the two parties and required extra work to keep the orders in Shipwell up-to-date.

Beyond the technical details of how this feature would work there were also business constraints. A new customer had just signed a contract with the agreement in place that we would have this feature ready by their go-live date. While making that deadline was of utmost importance this feature needed to work for our entire customer base. Thinking strategically about an MVP as well the next phases would be crucial to executing successfully.



Discovery

1 Customer Survey

I started research by sending out a survey to all of our customers. The goal was to understand how many of them had inbound orders, get an overview of that workflow, metrics on the number of suppliers they work with and the amount of orders they are currently running. The survey also allowed us to get a pool of customers that we could use for further research. I would follow-up with these customers to dive deeper into their current workflow as well as utilize them to get feedback on designs throughout the project.

Takeaways

- Larger customers w/high volume would be main user.
- Creation flow would need to be quick and simple.
- Utilize defaults, saved data, quick look-ups and bulk actions.
- · Future iterations would need to incorporate importing to avoid manual entry.
- With such high volume, users want to focus on the orders that require action.

② Competitor & Market Research

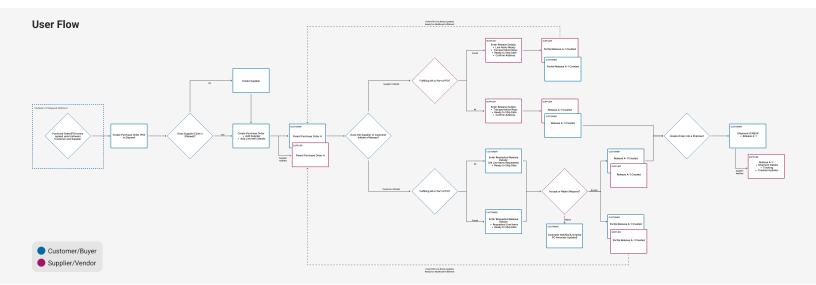
Some of our TMS competitors had supplier portal functionality. I was able to observe the main pieces of their flow. I was also able to find a few products that dealt directly with PO collaboration and buyer/ vendor enablement. These products focused on the core problems very well but lacked the breadth of features that a full TMS offers. There were often issues that took place and required quick collaboration to prevent delays in the supply chain. Researched other products that had a lot of collaboration tools (Asana, Trello).

(3) Customer Interviews & Feedback

Once I had a high-level understanding of the inbound order process, I set up meetings with customers. In the initial calls, I asked them to explain what their current process was for completing purchase orders, the biggest pain points in that process and what their ideal solution looked like within Shipwell.

After these first 5 customer calls, I felt that I had enough information to wireframe initial ideas and create a prototype. I met with the same customers again, walked them through the prototype and solicited feedback. The insights they gave helped me to iterate on the wireframes as well as create an in-depth user flow.

- The user interface for most TMS competitors felt antiquated and unfocused.
- "50% of PO lines will change" Due to late shipments, manufacturing delays, missed emails and miscommunications.
- Resolution management and collaboration would be a key theme.
- Need to be able to make updates, document and be notified of changes and **communicate** within the platform (messaging, attaching documentation, internal notes, etc.).
- Purchase orders could be initiated by the supplier or the customer. Depending on the initiating party the process was slightly different.
- A purchase order could be filled in-full or could be filled in multiple fulfillments.
- Each customer & supplier has a slightly different process.
- Customization & flexibility would be key to making this flow adapt to each process.



Design Process

Sales Orders vs. Purchase Orders

The orders that already exist within Shipwell are considered 'Sales Orders'. Eventually the purchase orders that were ready to be added/converted into a shipment would turn into a sales order. The purchase order had a different set of fields. I needed to make the experience feel consistent when creating either type of order and by the time the purchase order was ready to be converted into a shipment it must have all of the required information a sales order has.

Sales Order

Sales Order					Purchase Order								
S Compass Shipments Ori	ders Load Board Analytics Dispate	ch Tools V Manage V	iew Q 🦸 🖪	1 🕘 🔞	5 0	ompass Shipments	Orders Load Board Analytics Dis	apatch Tools V Manage V	New Q	f 🖬 🔋 0			
Add Sales Order					Add P	urchase Order - S	Supplier Access						
Order Number & References		Line items		^	Ref	erences & Order Type		P.O. Items					
Order Number*	Order Name	③ New Item	① New Item ^		Or	der Number*	Order Name						
Cust. Ref Field	Cust. Ref Field		Quantity ⁴ Packaging •		PC)#		Product					
Pickup & Delivery	Pickup & Delivery		Package Weight LBS •		-	Customer initiated fulfillmer Supplier initiated fulfillment:		Product Description*					
1 Pickup Address	① Pickup Address		Label IN .	·				Amount*	Unit*	•			
Pickup Address*	Pickup Address*		Item Specs A		Effe	ective Dates							
Supplier Name	Supplier ID	10	Piece Type Country of Manufacturer		🛅 Start Date 🛅 Expiration I		Expiration Date	Add Item	Add Item				
Pickup Date/Time Start	Pickup Date/Time End	USD Value Per Piece	USD Value Per Piece Country of Manufacturer										
CUSTOM STOP FIELDS	CUSTOM STOP FIELDS		Freight Class		Pickup & Delivery								
Custom Field 1	Custom Field 1		NMFC Code NMFC Sub Code		0	Pickup Address							
		Refrigeration Required			SL	ipplier Name*	Supplier ID						
(2) Delivery Address		Hazmat				Pickup Address							
Delivery Address*		Stackable											
Customer Name	Customer ID	Add Item			2	Delivery Address							
Delivery Date/Time Start	Delivery Date/Time End				0	ompany Name*	Company ID						
CUSTOM STOP FIELDS						Delivery Address*							
Custom Field 1						FOM FIELDS							
						ustom Field 1							
			Cancel Run Workflow	Save					Canc	el Save			

Line Item Requirements & Transportation Requirements

When a customer creates a purchase order they know at a high-level the amount of product they want. Ex: 1000 LBS of lightbulbs. It's the supplier who will know exactly how that amount of product will be packaged for shipping (known as the 'Transportation Requirements'). Ex: 5 Pallets at 200 LBS each. This information is required before a shipment can be created. Therefore the design needed to allow for the PO to have high level quantities and at a certain point require more detailed transportation requirements. To achieve this I used progressive engagement. I only displayed the required fields at each stage in order to not overload the UI. When more details were required, they would display. Additional fields that were not required would be displayed in collapsed sections to prevent cognitive overload.

P.O. Items	P.O. Items P.O. Items
0	LED Lightbulbs -1,000 LBS
Product -	② Batteries → 40 BOXES □ ORIGINAL REQUEST REMAINING AMOUNT 1,000 LBS 1,000 LBS 1,000 LBS 1,000 LBS
Product Description*	Air Filters · 50 PALLETS O Seatteries · 40 BOXES REMAINING
Amount* Unit* •	PRODUCT X
Add Item	PROVICE DESCRIPTION* Air Filters
PO line items only require description, amount & a unit	AMOUNT* 30 Pallets X * ORIGINAL REQUEST REMAINING AMOUNT 30 Pallets 30 Pallets 30 Pallets
	Add Item
Release Details X	Referse Details X Request - RECEIVED: WED, APR 24, 2023 08:00 CDT
Ready to Ship Date Proceed Address Vision Address Vision Address Vision Address Vision Address Vision Address Vision Address	Import to general memory Mon, May 8, 2023 15:00 CDT READY TO SHIP DATE Import to general Mon, May 8, 2023 15:00 CDT Mon, May 8, 2023 15:00 CDT
1210 Faulte St New Otherins, LA 7017 Line items Request All	Len Len Lightbulbs - 500 LBS
LED Lightbulbs Addont Realward 1,000 LBS Amount Ready (LBS)	O LED Lightbulbs PRODUCT DESCRIPTION REQUESTED AMOUNT AUXINIT SILMARIAS AUXINIT SILMARIAS LED Lightbulbs 500 LBS
	Image: second
O Satteries AxXonf MMAned 40 Boxes	3 Patterns Total Tree Method 1000 LBS * Total Tree Method Total Tree Method 1000 LBS * Total Tree Method Total Tree Method
Item Specs Or Air Filters	Match wider worth N * * Additional Details * Additional Details IN *
Axxoar essanse 30 Pallets Amount Ready (Pallets) Cancel Seve	Cancel Save
	When the supplier releases a product additional fields are exposed Once the release is created, the required fields continue to be exposed

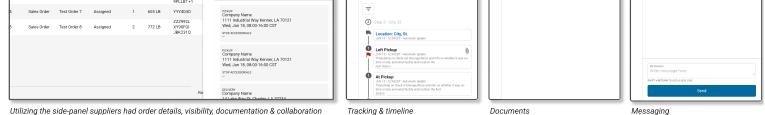
that they are required to fill out.

but the user can expand the item specs section to enter more details

Supplier Visibility into Shipment Details & Timelines

Through research, I found that the biggest blind spot in this flow was after the order was converted into a shipment by the customer. The customer was booking the carrier and setting up pickup dates but all of this was happening at the supplier's facility. It was imperative that the supplier get visibility into these details so that they could be prepared with the goods. They also needed certain documents that only the customer had. A technical constraint around this area was that we did not have the resources to build out an equivalent shipment details page for the supplier. There would need to be another method to give them visibility into the shipment while also being a lightweight implementation for engineering.

for Orders	[Order #] Share External Tracking ×	[Order #] Share External Tracking ×	Order #] Share External	Tracking ×	[Order #] Share External Tracking ×
READY ON SHIPMENTS DELIVERED ALL ORDERS	SHPMB/TID (2) AAA111 *	** s+#M0/T0 (2) AAA111 *	SHPWENT ID (2) AAA111	•	SHEMBUT ID (2) AAA111 ·
Order Type + Order Name Order Status Items Weight + Shipment ID		-	↓ ✓ Order (2)	1 Upload	Jeff Meyer May 3, 2023 11:22 EDT
3 Sales Order Test Order 1 Assigned 1 500 LB JJJ123S		SAL ON	Packing Slips PSlips FU Step 4, 2020 01:44 by Finithere Lastnere		Everything is looking good. The carrier has been dispatched as of 09:55 EDT
3 Sales Order Test Order 1 Assigned 2 1,100 LB AAA111			Shipping Label Shipping Labels (4) Fill Sep 4, 2020 09:44 by Firstname Lastname		Sarah Evert May 3, 2023 11:00 EDT
9 Sales Order Test Order 3 In Transit 1 762 LB BBB767P DDD9998			N. mer. Snipping Labers (4) Frit, Sep 4, 2020 03-44 by Firstname Lastname		What's the status of pickup for Ship #AAA111
1 Sales Order Test Order 4 Dispatched 2 839 LB AAA121G			✓ Shipment (1)	1 Upload	
2 Sales Order Test Order 5 In Transit 1 435 LB CCC012N		2 3	BOL Bill of Lading Fri, Sep 4, 2020 09:44 by Firstneme Lastname		
III649M B Sales Order Test Order 6 Out For Delivery 2 971 LB JEC098L	Kenner, LA St. Charles, LA	 Kenner, LA St. Charles, LA			



Development & Prototype

Multiple parties collaborating on the same order created some technical challenges, especially when you consider only certain actions were available depending on who initiated a release and only certain fields were editable depending on the status of a purchase order. In order to make this clear I led many meetings with the engineering squad and walked them through the prototype and answered questions. I also got great feedback that helped me to iterate on aspects of the design as well. As designs developed, I would regularly update the prototype so that it was current and could be utilized by both engineering and product.



View Prototype

Current State

At the time of writing this case study, this feature is still under development. It is currently on target for the MVP to be released on schedule. In order to meet this deadline, aspects of the design had to be cut to remove scope and certain workflows were prioritized over others. These decisions were made based on what our current customers needed most. Deprioritized workflows would be worked on immediately following the release. Based on continued research and customer feedback there are also additional features that I have designed that will enhance the capabilities of the supplier portal and make it a selling point to even more prospects.

Enhancements

(1) Associate Supplier with Multiple Locations

Through customer conversations, we found that one supplier often has more than one location they operate out of. Customers often don't know what location the order will be picked up at until it's released by the supplier. Allowing suppliers to have multiple addresses would be a necessary update. To be even more efficient, users could designate supplier locations from existing address book entries.

(2) Counter-Offer

Whenever product is ready to be released, whether it is the customer or the supplier initiating, the interaction should allow for a negotiation. The customer may request a certain amount of product by a specific date and rather than reject the request the supplier may counter with a different amount and/or by a different date. The same can be said from the supplier-initiated flow. The customer might not be able to handle the size of the shipment at that time. A counter-offer could resolve this issue.

