High-Level Project Scope

Listen Systems
Project: Digital Catalogs for Grocery Wholesale

Background

With Amazon's purchase of Whole Foods Market in 2017 and the rapid growth of grocery eCommerce entrants such as Instacart, automation is making defensible inroads in the **$5.75 trillion dollar grocery industry**, which has historically been deeply resistant to it due to margin constraints. With the commodification of cloud and IT resources, software and AI powered solutions are now accessible to more companies, and are aggressively driving efficiency and competition throughout the industry.

An area that remains slow to adapt is purchasing. Presently, most grocery wholesale distributors and producers receive orders via phone, email, fax, or EDI based systems. All of these channels (except for EDI, which we address later in this document) require that orders be manually keyed into other systems for order fulfillment to continue: QuickBooks, ERP software, emails or even in-office mail to production, shipping & receiving, and possibly other departments.

In addition to being labor and time intensive, this process is deeply error prone. Orders can be vague ("1 case of broccoli" can refer to potentially dozens of different SKUs: stalks or florets? Organic or conventional? Pre-packed, bunched, or loose?), buyers will sometimes provide incorrect item codes or names, or they will be keyed in incorrectly. Buyers can forget whether a case of a particular SKU contains 6, 9, 12, 18, or 24 units, or not realize that the case-size has changed.

Errors on either side lead to returns and credit requests, which themselves entail labor intensive and error prone manual process: typically, buyers or accounting teams request credit by phone or email, which on approval must then be manually tracked and followed up on until a credit memo is received and then properly logged in accounting software and deducted from accounts payable.

Manual follow-ups on email and fax purchase orders are not just common, they are an inevitability: some retailers simply require confirmation calls or emails, calls must be made to clarify ambiguities or to confirm anomalous orders, and to notify buyers of availability or quality issues.

This situation is exacerbated by the fact that the grocery wholesale marketplace is dynamic in the extreme. Pallet, case and item sizes change constantly. In categories such as produce, SKU availability and pricing fluctuate on a daily cadence. For larger distributors, there can be tens of thousands of price changes per month.

Despite this, most vendors continue to rely on static paper or emailed catalogs, meaning that any updates or amendments must be communicated by email or traditional snail-mail. As a result, many retailers are making buying decisions with outdated information.

Further, product surfacing is poor. Vendors primarily rely on costly field sales teams to drive discoverability and demand for new items, or ineffective email and paper promotional campaigns.

The extent of this inefficiency is unfortunate and highly unnecessary, given the advances made in the eCommerce space over the last two decades and its success stories in industries as diverse as transportation, meal delivery, and consumer electronics.

Prior Work

EDI

In the 1970s, there was a concerted effort to standardize digital information transfer between companies (in particular, to provide a consistent data format for transferring documents such as purchase orders and invoices). This effort culminated in the development of the Electronic Data Interchange standards, or **EDI**.

Unfortunately, what emerged from the EDI standards was not a single data format, but rather a continuum of competing format dialects. As a consequence of this, today different companies deploy different dialects of EDI and to varying degrees of compliance with the standard, which require expensive in-house IT personnel to build and maintain software and hardware infrastructure that properly parses new dialects introduced each time companies begin doing business with a new partner. Onboarding new partners typically takes weeks or months of development and testing for both parties.

All of this makes EDI inaccessible to virtually all players but enterprise, which is primarily where it is used today. EDI still largely fails to solve the problems of manual entry of information into disparate systems and new item surfacing, and introduces its own set of complexities and inefficient workflows.

Handshake

Handshake is "the B2B eCommerce platform that brings manufacturers & distributors closer to their customers -- both in person and online", founded in 2012 by Mike Elmgreen (CMO, previously an account executive at Microsoft) and Bret Coates (CEO, previously SRE at Bread, acquired by Yahoo!).

Handshake offers two core products: **Handshake Direct,** a B2B eCommerce website and mobile app, and **Handshake Rep**, a mobile app for sales reps to place orders in the field. Both follow a "Contact Us" pricing model. The Handshake platform provides integrations with Quickbooks and other accounting software, ERP systems, credit card processors such as Stripe and Visa Authorize.Net, and various other platforms.

Currently funded at $23.5 million, Handshake is industry agnostic, targeting eyewear, fashion, food & beverage, medical devices, music, and others.

Although Handshake touts grocery as one of its categories, [their portfolio](#) of food & beverage customers largely consists of higher-margin and non-perishable subcategories, such as beer & wine, supplements, and specialty foods.

Product Vision

Spearmint will be one part Amazon, one part Shopify, but targeting B2B grocery wholesale. Its fundamental value proposition is to remove a particularly inefficient, tedious, labor-intensive, and error prone set of workflows from an industry with razor thin margins -- in particular, the industry where these errors and inefficiencies are most costly, and lead to hundreds of billions of dollars lost per year.

Spearmint will allow distributors and producers to easily build shoppable digital catalogs leveraging Spearmint's vast SKU database for rapid onboarding. These vendors will be able to manage incoming purchase orders in a single place, quickly onboard new retailers, and enter custom terms and contract or promo level pricing for each SKU, retailer, and retailer location.

Retailers will benefit from a unified interface for quick interactions with all of the vendors they work with who use Spearmint. Purchase orders can be generated and sent in real-time, and order-adjustments and returns can be tracked and reconciled directly in the app. Retailers will always see the most up-to-date pricing and availability information tailored to their pricing agreements.

Spearmint will seamlessly integrate with existing processes, accounting software such as Quickbooks, and legacy ERP/EDI systems, while exposing REST APIs for bleeding-edge retailers with automated buying capabilities or who use custom internal buying UIs. Desktop and mobile applications will provide a real-time feed of incoming purchase orders for production operations teams, reducing the load on customer service departments who will no longer have to waste time on tedious and error-prone order entry.

Spearmint will empower retailers and wholesalers with the last two decades of developments in eCommerce and artificial intelligence: it will intelligently surface and recommend new and trending products at regional granularity, suggest products that have been successful for similar and nearby retailers, and flag anomalous orders. Retailers will be able to optionally leverage Spearmint's AI-powered automated buying capabilities to generate purchase orders automatically based on historical movement patterns.

Target Audience

This application's initial target audience are wholesalers in the grocery industry, ranging from small producers that lack the resources to hire an in-house customer service team, to international produce distributors looking to streamline operations in the face of escalating competition.

Eventually, retailers may also be targeted for monetization via add-ons (for example, for AI powered PO generation).

Target Platform

To start, a desktop-first webapp should be sufficient.

Release 1: Minimal Viable Product (MVP)

The first release will provide the basic ability for vendors to create and update product catalogs, and for retailers to create purchase orders, add items to them, view costs and totals, and submit them to the vendor in-app. This should trigger an email containing the purchase order to integrate easily with existing process.

Vendors should be able to make adjustments to purchase orders they receive, configure customized pricing for each retailer to the granularity of individual SKUs, confirm line-item availability, confirm and cancel orders, and send invoices.

Retailers should be able to request returns or credits against invoices in the app.

Vendors should be able to trigger invite-emails be sent to retailers to join the platform, and retailers should be able to trigger invites to vendors to join the platform.

The first release will provide the basic core functionality upon which we can expand based on user feedback and analysis of usage. It will also provide a viral component in the form of allowing vendors to invite retailers, and retailers to invite vendors.
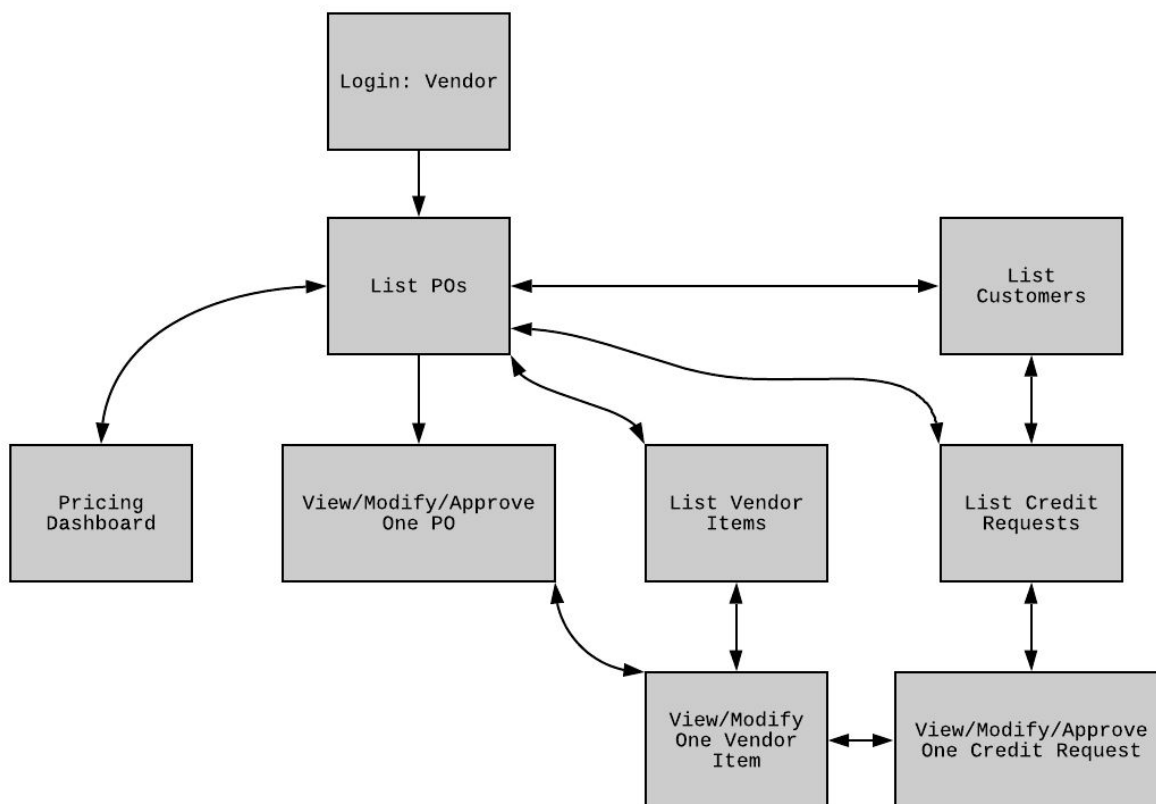
Payment processing is not a requirement for this first version and should be delegated as a roadmap item, as many retailers are set up on credit terms (NET45, NET30, NET15), COD, and are accustomed to paying by check.

Vision for Core End-User Functionality

No.	**Core Area Name** Description
1	**Digital catalog** Spearmint is fundamentally an eCommerce application, and so vendors should be able to create and update a catalog of items they carry. Vendors should be able to ● List items that they carry, and create items that are missing from the item database ● Mark items as discontinued or unavailable ● Set base pricing, promo pricing, contract pricing for each item, by customer/retailer ● Authorize retailers to browse their catalogs and buy from them Retailers should be able to ● Browse catalogs for vendors they are authorized to purchase from ● Create purchase orders, and add items to them ● Submit purchase orders to vendors Vendors should also be able to ● Confirm items, purchase orders, and adjust quantities and pricing
2	**Virality** Vendors should have the ability to invite retailers to the app, and retailers should have the ability to invite vendors to the app.
3	**Item Database** To streamline the process of onboarding new vendors and to ensure a consistent visual experience, there should be a global database of items added to Spearmint that is primarily entered by the Spearmint team rather than vendors

Basic MVP Screen Flow

The diagram that follows depicts the basic screen flow for the Spearmint web application. The purpose of providing the screen flow is to provide a sense of how a user will interact with the app.

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Vendors: Main Screen (List POs)

Upon logging in, a vendor user will be presented with a list of purchase orders. From here, the vendor can perform bulk actions (reject/approve all), view/modify a single purchase order, view credit requests, view a list of vendor customers, or open the pricing administration dashboard.

Vendors: View/Modify/Create a Purchase Order Screen

The view/modify/create a purchase order screen will allow vendors to view and approve or make adjustments to a purchase orders that has been submitted by a vendor. Adjustments include adding or removing line items, editing line item quantities, and editing pricing or shipping. Vendors can cancel items and specify a reason that can be viewed by the customer. Finally, vendors can confirm or cancel the purchase order.

Vendors: List Vendor Items Screen

The List Vendor Item screen lists the vendor's digital catalog. From here, the vendor can add/update items, and view individual items. The vendor can also perform bulk actions, such as setting the status (e.g. active/inactive) of several items.

Vendors: Add/Update Vendor Item Screen

The add/update vendor item screen lists the vendor's digital catalog. From here, the vendor can create or update items, update item pricing, and view the details of single items, such as case size, unit size, manufacturer, and item description.

Vendors: List Credit Requests Screen

From the List Credit Requests Screen, the vendor can perform bulk actions, such as approving or rejecting a set of credit requests. The vendor can also access the View/Modify/Create a credit request screen.

### Vendors: View/Modify/Create a Credit Request Screen

The view/modify/create a credit request screen will allow vendors to view and approve or make adjustments to credit requests that has been issued by a vendor. Adjustments include adding or removing line items, editing line item quantities, and editing pricing. Finally, vendors can confirm or cancel the purchase order.

Vendors: List Vendor Customers Screen

The List Vendor Customers screen lists customers that have been approved for this vendor. From this screen, the vendor can invite a customer to join Spearmint, approve a customer who already has a Spearmint account to buy from them, and view customer.

Vendors: View Customer

The view customer screen displays information about the customer, such as their name, contact information, locations, recent order and credit history, and summary statistics about orders and credits. From here, the vendor can update
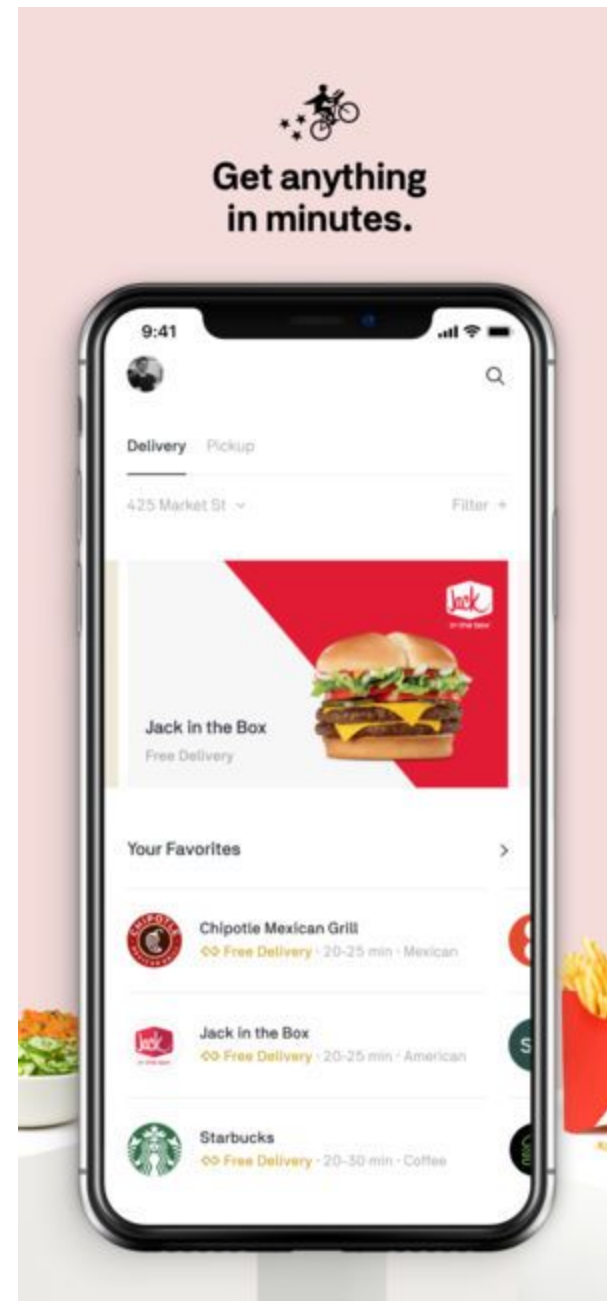
customer level pricing (for example, if the customer qualifies for a volume discount), and change delivery days for each of the customer locations.

Vendors: Pricing Administration Screen

From the pricing administration screen, the vendor will be able to update customer or customer-item level pricing (for example, apply a 25% discount to a particular category or product line).

Buyers: Main Screen (List Items)

Upon logging on, buyers are presented with the main screen which lists vendors that they are approved to purchase from. From here, buyers can add items to an existing PO or to a new PO, access vendor catalogs, the single item screen, and single vendor screen.
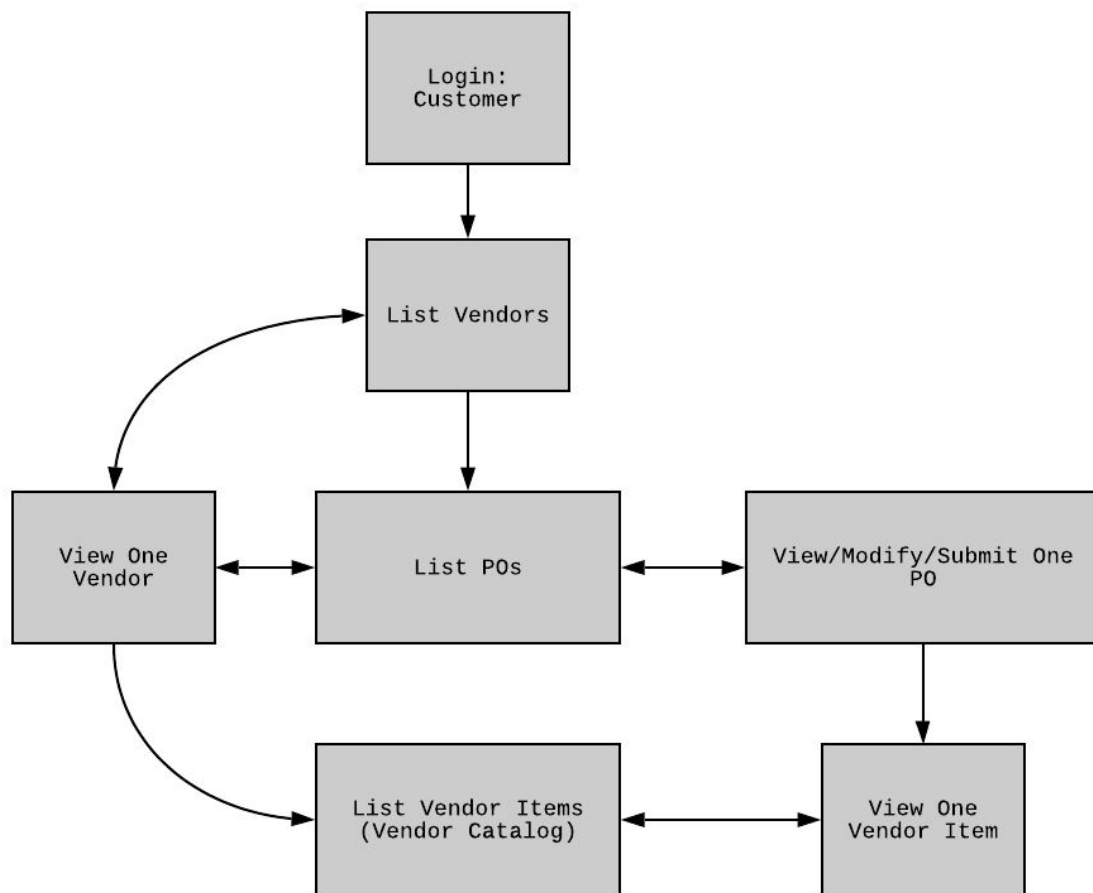
Buyers: Browse Vendor Catalog Screen

From the browse vendor catalog screen, buyers will be able to switch vendors (view the catalog of a different approved vendor), view item weights, case sizes, base cost and current cost (based on custom pricing and active promos), add items to an existing or new PO, and view single item details.

Buyers: Single Vendor Item Detail Screen

From the single item screen, customers will be able to view item details such as description, ingredients, base and custom pricing, and MSRP.

Buyers: List Purchase Orders Screen

On the List Purchase Order screen the buyer will be presented with a list of purchase orders. From here, the buyer can perform bulk actions (cancel/submit purchase orders), view and modify a single purchase order, create a single purchase order for a customer, view credit requests, view a list of vendor customers, or open the pricing administration dashboard.

Buyers: View One Purchase Order Screen

On the VIew One Purchase Order screen, buyers can add items from a vendor catalog, are presented with a list of line items on the existing PO, and can remove items and update quantities. Buyers can view basic information about line items (name, UPC code, vendor item codes, weight, size, etc). Shipping costs based on vendor defaults or custom agreements should be visible.

Buyers: List Invoices Screen

On the List Invoices screen, buyers can view invoices. Buyers can request credit against particular line items (for example, in the event of damaged product).

Buyers: View One Invoice Screen

On the VIew One Invoice screen, buyers can view line items and see the invoice total, and view the associated purchase order. Buyers can request credit against particular line items (for example, in the event of damaged product).

Measures for Verifying the Hypothesis

Grocery distributors and producers have a deepening interest in automating inefficient and error-prone workflows, driven by pressure from escalating competition from the tech sector and increasing availability of low-cost cloud-based and AI-powered solutions.

The hypothesis is that distributors and producers will use Spearmint to remove these costly and inefficient paper and email based workflows from their day-to-day so that they can focus on building better relationships with their customers.

Validation of this hypothesis will come from tracking signups, churn, and CMRR, and partnering with early-adopters to study time/money saved by switching to Spearmint.

Feature Development Plan

Priority No.	Core Area - Feature Name Description	Complexity
1	**Vendors: Main Screen (List Purchase Orders)** This is the screen the vendor/distributor first sees when launching the app. It is a list of purchase orders ordered by recency. Vendors should be able to ● View a purchase order ● Cancel purchase orders ● Confirm purchase orders ● Filter purchase orders (e.g. by customer, status)	Med.
2	**Vendors: Modify/Confirm Purchase Order / Purchase Order Items** This screen allows vendors to view purchase order line items, confirm purchase order line items, confirm the whole purchase order (confirm all purchase order items), and modify line item quantities and prices.	Med.
3	**Vendors: Digital Catalog (Vendor Items Management)** This screen allows vendors to ● View items in their catalog ● Search and filter items in the catalog ● Add new items to the catalog ● Delete items from the catalog ● Edit item details ● Edit item pricing ● Mark items as discontinued/unavailable/on recall	Med.
4	**Vendors: Pricing Dashboard** This screen allows vendors to ● Modify item pricing globally (for all vendors/locations) ● Modify item pricing by buyer (e.g., provide a 10% discount on all items or a subset of items to ACME Corp) ● Create temporary promotions on a subset of items	High.
5	**Vendors: Customer Management**	Low

	This screen allows vendors to ● View customer details (address, contact information) ● View customer order and credit/return history ● Invite new customers to join Spearmint	
6	**Customers: Main Screen (List Vendors)** The main screen for customers on logging in should ● List all vendors approved for the customer ● Provide a quick path to create a purchase order	Med.
7	**Customers: Vendor Catalog (List Vendor Items)** The customer should be able to browse the digital catalog of vendors they are approved to buy from. Buyers should be able to ● Search for/filter items ● View item details ● Add/remove items from a purchase order	Med.
8	**Customers: View One Purchase Order** Customers should be able to create, view, modify, cancel, and delete purchase orders they have created.	Low

Release 2+: Product Roadmap

Priority No.	**Roadmap Feature Name** Description	Size/ Complexity

1	**Integrations with Accounting Software** Purchase orders, invoices, and credits should synchronize with Quickbooks and other accounting software	Med.
2	**EDI Integrations** To support enterprise retailers and distributors in adopting the platform, we should offer an **EDI** "proxy" that translates EDI transactions into purchase orders and has parity with our REST API.	Med.
3	**Integrations with ERP software** Purchase orders should synchronize with popular ERP software, such as IQMS.	High.
4	**Product Surfacing** Vendors should be able to display custom hero images, carousels, and have control over merchandising of their product on the site, and be able to upload photos	High.
5	**iOS and Android Apps** In smaller independent stores, desktops may not be available. Field reps may need to place orders while on the go.	High.
6	**Item Ingredients, Nutritional Facts, & Allergen/Special Diets** Certain grocery categories are sensitive to special diet and allergen considerations.	Low.
7	**Expose RESTful APIs** We should expose add ons for programmatic PO generation via REST APIs for bleeding edge retailers and startups with automated buying capabilities, or retailers who have custom buying UIs.	Med.
8	**Automated Buying** Using historical data and taking into account seasonal and holiday variations, we should be able to predict demand and suggest orders	High.

9	**Anomalous Order Flagging**	Low.
	We should flag orders that are unusual (either they contain items not normally ordered or larger quantities than usual). To start, perhaps this could be simply a popup asking for confirmation before the customer submits the PO.	
10	**Item Update Flagging**	Low.
	Price changes, case size changes, and other item-level changes should be surfaced to retailers.	
11	**New Customer Onboarding**	Med.
	Onboarding new wholesale customers typically entails paperwork such as new customer applications and credit checks. We can automate this process for wholesalers by offering online applications and credit checks. We can start with providing an outsourced form and manually sending HelloSigns.	
12	**Vendor Surfacing**	Low.
	Retailers should be able to search for items on our platform and find wholesalers/vendors that sell those items.	