



Des Moines Area Metropolitan Planning Organization

Feasibility Study of Empty Container Website

*Providing Iowa exporters with container status
information to increase efficiency of container
usage across the state*

IOWA STATE UNIVERSITY

COLLEGE OF BUSINESS



March 1 - 2016



Table of Contents

Executive Summary.....	1
Objective.....	1
Findings.....	1
Process.....	1
Container Utilization Technology.....	2
Vendor Research.....	3
Recommendations.....	4
Preliminary Steps for Website Creation.....	5
Appendix.....	6
A. Pricing Options for Individual Subscriptions.....	6
B. Customized Daily Deliverable from Datamyne Details.....	8

Executive Summary

An area for potential efficiency increases has been recognized among Iowa exporters in the form of shipping container utilization. Des Moines Area Metropolitan Planning Organization (DMAMPO) identified a situation involving a surplus of inbound shipping containers that could be turned around more quickly and utilized better for Iowa companies involved in exporting.

CyBIZ Lab created this report detailing the research conducted on container utilization, and the approaches taken by other planning organizations. A variety of shipment tracking technology programs were researched and tested to help determine the feasibility of creating (or utilizing) similar concepts in Iowa. This report contains the results of our research with these technology providers, a current situation overview, and a recommendation on the steps DMAMPO should take to create a website with container status information.

Objective

Research and analyze shipping container utilization technology and observe trends that could potentially benefit DMAMPO and Iowa exporters in maximizing container usage. Determine the feasibility of creating a website that contains container status information that Iowa exporters can access in order to improve container utilization efficiency across the state.

Findings

- Raw data regarding imported containers is available from the U.S. Customs and Border Protection.
- There are a variety of third party vendors that process import data and sell it as useful information in a subscription-based service.
- Import data is not real-time data, and would provide trend insight only – it does not provide information regarding where an empty container currently resides.
- The information needed to create a functioning website for container optimization purposes would need to be updated regularly, and will likely incur a cost to maintain.

Process

1. Conduct research on container utilization technology
2. Analyze differences in third party vendors that provide subscription services
3. Test and review third party data systems
4. Identify possible methods of obtaining necessary data at reduced or no cost
5. Generate ideas and methods of next steps needed to proceed with website development
6. Create a final report with key findings and recommendations

Container Utilization Technology

Effectively managing, positioning, and utilizing shipping containers to maximize efficiency and minimize cost has been a popular topic among exporting companies and cities. Many third party vendors and technology innovators have created specialized systems and best practice methods to assist exporters in increasing their profitability from shipments.

One popular data gathering option among exporters is the use of third party vendors like Datamyne, Piers, and Import Genius. These databases were originally designed for companies to gain market insight into where a competitor might be sourcing their materials from, or how often they are receiving shipments overseas. Marketers use this data to discover trends that they use to their advantage when pricing similar products, or identifying areas to capitalize on market share gains. Raw data detailing U.S. shipments is available under the Freedom of Information Act from U.S. Customs and Border Protection (CBP) for \$100 per day, or \$36,500 per year. CBP will send a CD-ROM containing bill of lading details, shipment manifests, container numbers, and other shipment information documented throughout a given day. The third party vendors mentioned above purchase this information, process the raw data, create useful reports, and then sell the information to companies through a subscription-based service for \$1,200 to \$14,000 per year depending on package options and the amount of information desired. See Appendix A for more detailed subscription-based pricing options from Datamyne and Import Genius.

More advanced tracking technologies have been developed that utilize RFID tagging or even satellite tracking to locate containers in real-time. This is considerably more expensive, and requires physical equipment/technology on shipping containers in addition to software designed to update/receive the data provided. Many port cities utilize this kind of technology to effectively track container movement throughout a shipyard. Container information can be updated digitally in seconds, and users are able to see exactly where a container is, its contents, origin, destination, and other shipment details.

A recent idea regarding empty container pools or “equipment yards” has also come into consideration. Instead of using resources to track containers, importers could simply drop off empty units at a depot which would allow exporters to utilize them as needed. While the cost of maintaining a depot like this may be cheaper than acquiring and updating tracking data, there would be a larger initial investment cost to consider. Depot location and access would also be strategic decisions, and liability issues regarding the responsibility of repairs/maintenance are difficult to navigate. Initiatives to gauge interest in such facilities have been taken through Iowa’s Freight and Rail Plan.

Vendor Research

CyBIZ Lab contacted third-party vendors, economic development experts, and the U.S. Customs and Border Protection seeking additional information regarding tracking imported shipping containers into Iowa. Most conversations led to obtaining the data that the CBP possesses, and attempting to extract the information needed to create a website for Iowa exporters to utilize. Through contact and conversation with an account manager at Datamyne, it was discovered that Datamyne's development team has the ability to design a customized data set using the bill of lading information they receive from CBP. The tailored data package would be sent daily in an Excel file via email and would cost \$13,440 per year. The daily deliverable received from Datamyne would still have to be published on a website, but CyBIZ Lab believes current and/or future student workers would have the skill set to perform the website creation duties. After the website is created, it would then have to be maintained throughout the year with updates being published daily. If DMAMPO would purchase the data directly from the CBP every day, it would cost \$36,500 per year for the raw data alone. This data would still need to be cleaned and sorted in order to be effectively utilized or posted to a website. See appendix B for the details regarding the customized daily deliverable that Datamyne can develop for DMAMPO.

Although the data received from Datamyne or any other source would not be real-time data, it would still allow for trend and pattern analysis. The daily deliverable from Datamyne does not include the estimated time of arrival at the Iowa destination, but Iowa shippers and exporters could still contact ocean carriers whom they have a relationship with to determine when and where containers are coming into Iowa.

DMAMPO tasked CyBIZ with attempting to find channels that would allow the use of this data to be obtained at reduced or no cost. Despite our efforts and resources within Iowa State University, the cost of ordering import data from CBP would remain at \$100 per day.

Recommendations

If DMAMPO wishes to access import data, CyBIZ Lab recommends going through a third party vendor, specifically Datamyne. Negotiating for a lower cost may be in DMAMPO's best interest due to the fact that Datamyne's \$13,440 per year offer for a tailored daily deliverable is only their first offer. With that being said, after completing research on other third party vendors, it is clear Datamyne is the best option because they have more capabilities than the other third party vendors. CyBIZ Lab does not recommend purchasing this data directly from U.S. Customs and Border Protection, as it is more expensive per year. Also, the data set from CBP is every bill of lading for a specific day, in other words DMAMPO would be paying for a massive set of unnecessary data. Time and labor would also be required to process the data into usable information.

In order to proceed with a successful website implementation, data containing incoming container status will need to be purchased. This requires capital investment from DMAMPO, or from companies that would benefit from this service. Below are some scenarios detailing ways that funding could be provided.

1.) Fees or Subscription Charges

- DMAMPO could pay off the \$13,440 for the daily deliverable through the use of subscription fees; similar to the way Datamyne pays off their CBP data expense. Iowa companies interested in obtaining this information would be able to pay DMAMPO a cheaper amount than going directly through one of these third party vendors themselves. A survey should be created to determine how many Iowa exporters would be interested in accessing this data, which would determine the amount each company would pay.

2.) Fundraising

- Having several companies, agencies, organizations, or other stakeholders donate resources would allow DMAMPO to purchase necessary information. Donors would be incentivized by having access to this website, or perhaps some other unrelated service that DMAMPO could provide (advertising, sponsorship, project work, map making, etc.) Fundraising efforts would need to be collaborated on a yearly basis, as the tailored information package would need to be renewed annually.

3.) Government grants

- While the agencies we spoke with regarding CBP data were not able to provide it for free, there are several federal application processes that could be completed to obtain the necessary funding. This would require the most amount of time, and there would be a delay in waiting for results and funding to arrive. CyBIZ Lab recommends this option as a last resort if the previous ideas are not feasible.

An alternative recommendation is to see what events result from the Iowa Freight and Rail Plan or the LIFTS program. There have been discussions related to equipment yards, and this may be a necessary first step in being able to feasibly post container availability online for Iowa exporters. Gaining support for this idea may result in greater success than gaining funding to create a website in present situation.

Preliminary Steps For Website Creation

CyBIZ Lab believes creating a website based off of the tailored daily deliverable from Datamyne is feasible. If DMAMPO chooses to proceed with CyBIZ Lab's recommendation of purchasing the daily deliverable there will be steps that need to take place before the website creation/implementation can occur. These steps will be categorized as steps DMAMPO needs to take and steps CyBIZ Lab needs to take.

DMAMPO Steps:

- 1) Negotiate with Datamyne and try to lower the cost
- 2) Determine the best way to finance the cost
- 3) Establish the best email address or method to receive the daily deliverable email from Datamyne
- 4) Establish the start date for receiving the daily deliverable
 - Steps 3-4: communication with CyBIZ Lab during these steps is advised, as it will allow both parties to prepare for the creation/implementation process

CyBIZ Lab Steps:

- 1) Evaluate all current employee's website creation abilities
- 2) Determine which employee's are well-suited for the website creation of project
- 3) Hire students with experience in website creation if current staff can not fill the needs
- 4) Communicate with DMAMPO on a start date for Phase 2 of the project

Appendix

A. Pricing Options for Individual Subscriptions:

Datamyne:

Commercial Basic	Commercial Premium	Commercial Premium + Datamyne Trade Profiles	Latin American Data
<ul style="list-style-type: none"> ▪ 1 Year of Historical Data ▪ Daily Import Updates ▪ Updated Search Features ▪ Unlimited Searches, 1000 downloads per search ▪ 10,000 Downloads Per Year <p>Starting at \$250/month</p>	<ul style="list-style-type: none"> ▪ 2 Years Historical Data ▪ Daily Import Updates ▪ Standardized Company Names ▪ Unlimited Searches, 5000 Excel Downloads per search. ▪ Updated & Advanced Search Features ▪ Search by Harmonized Tariff Code (HS) ▪ Email Alerts <p>Starting at \$385/month Add Exports for \$250/month</p>	<div style="text-align: center; margin-bottom: 10px;"> <div style="background-color: #6A329F; color: white; padding: 5px; display: inline-block; transform: rotate(-15deg); transform-origin: center;"> MOST POPULAR </div> </div> <ul style="list-style-type: none"> ▪ 2 Years Historical Data ▪ Daily Import Updates ▪ Standardized Company Names ▪ Unlimited Searches, 5000 Excel Downloads per search. ▪ Updated & Advanced Search Features ▪ Search by Harmonized Tariff Code (HS) ▪ Email Alerts(HS) ▪ 500,000 Company Profiles (U.S. & Foreign) <p>D&B Company Data + Family Tree Starting at \$485/month</p>	<p>The most comprehensive coverage of LatAm trade available from any source:</p> <ul style="list-style-type: none"> ▪ import-export data for 15 countries. ▪ Our LatAm National + Transactional (including company names) ▪ Includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Venezuela, Panama, Paraguay, Peru and Uruguay. (Mexico data sold separately) <p>Starting at \$400/month</p>

Import Genius:

	RECOMMENDED PLAN		
Plans	Limited MONITOR YOUR COMPETITORS	Plus SMALL & MEDIUM BUSINESS	Premium EMPIRE BUILDER
Price	\$99 /month Sign Up	\$199 /month Sign Up	\$399 /month Sign Up
Data	Access data on U.S. ocean freight imports from the last 3 months for all companies View Details	Access data on U.S. ocean freight imports from the last 12 months for all companies U.S. Ocean Freight Exports from January 1, 2014 to present for all companies View Details	Access data on U.S. ocean freight imports from November 2006 to the present for all companies U.S. Ocean Freight Exports from January 1, 2014 to present for all companies View Details
Usage	<ul style="list-style-type: none"> * 10 Company Searches Per Day * 3 Contact Info Requests Per Month * Download (CSV and XLS) 1k Records Per Month * Email Alerts for up to 3 Company Searches View Details	<ul style="list-style-type: none"> * 25 Searches Per Day * 25 Contact Info Requests Per Month * Download (CSV and XLS) 10k Records Per Month * Email Alerts for up to 5 Searches View Details	<ul style="list-style-type: none"> * 50 Searches Per Day * 50 Contact Info Requests Per Month * Download (CSV and XLS) 25k Records Per Month * Email Alerts for up to 10 Searches View Details
Features		Visual Mapping View Details	Visual Mapping View Details
Support	Our Customer Service Agents are available when you need them. Call in to receive helpful tips and training. View Details	Our Customer Service Agents are available when you need them. Call in to receive helpful tips and training. View Details	<ul style="list-style-type: none"> * Our Customer Service Agents are available when you need them. Call in to receive helpful tips and training. * Dedicated Research Assistant View Details



B. Customized Daily Deliverable from Datamyne Details:

Filter: Consignee = Iowa

Frequency: Daily

Data fields included:

- Bill of Lading Number
- Arrival Date
- Master Bill of Lading Number
- Carrier
- Container Number
- Delivery City
- TEU's
- Container Type
- Equipment (container) description

Price: \$13,440

The data will be sent via email and will be in an Excel file. It will then need to be pulled from the Excel file and imported into a website.