Collaborative Distribution – An Analysis for the Environmental Defense Fund

MIT Sloan Course 15.915
Laboratory for Sustainable Business
Spring Semester 2012

Robert Duran Barbara
Neil McQuarrie
Elena Schrum
Terence Teo
Agenda

1 Project overview ........................................................................................................................................... 3
2 Collaborative distribution today .................................................................................................................. 3
3 Enablers and barriers in collaborative distribution ...................................................................................... 4
   3.1.1 The enabler will be the economic benefit ......................................................................................... 4
   3.1.2 Barriers and hesitations .................................................................................................................... 5
4 What new steps can be taken to stimulate collaborative distribution? ....................................................... 6
   4.1 Taking Lessons from Containerization ................................................................................................. 6
   4.2 Stimulating adoption and diffusion ....................................................................................................... 7
      4.2.1 3PLs sell collaborative partnerships using existing route overlaps .............................................. 7
      4.2.2 Eventually, 3PLs demonstrate even greater savings through route modification ...................... 7
      4.2.3 Support platforms and forums for shippers to identify sporadic agreements .............................. 8
      4.2.4 Facilitate open database to match shippers for lasting collaborations ....................................... 8
      4.2.5 What might not work? .................................................................................................................. 9
   4.3 What potential early adopter groups could help diffuse collaborative distribution? .......................... 9
      4.3.1 Transported Goods ......................................................................................................................... 10
      4.3.2 Shipping Company ......................................................................................................................... 10
      4.3.3 Third party logistics provider (3PL) .............................................................................................. 10
      4.3.4 Retailer .......................................................................................................................................... 11
      4.3.5 Logistics Network ......................................................................................................................... 11
      4.3.6 Company Culture: ....................................................................................................................... 11
5 Recommended strategy: what role can EDF play? ...................................................................................... 12
   5.1.1 Step 1 – Create a showcase ............................................................................................................... 12
   5.1.2 Step 2 – Leverage early adopters ..................................................................................................... 14
   5.1.3 Step 3 – Broaden knowledge ............................................................................................................. 14
   5.1.4 Step 4 – Facilitate implementation .................................................................................................. 15
   5.1.5 Step 5 – Establish a brand ................................................................................................................. 15
6 Conclusion .................................................................................................................................................... 15
1 Project overview

Transportation represents approximately one quarter of global carbon emissions and 70% of petroleum use in the United States\(^1\). Freight transportation represents a significant portion of this transportation and, within logistical supply chains, transportation represents up to 89% of total carbon emissions\(^2\).

When distributing goods by sea or air, shippers will often collaborate because of the high cost of owning and maintaining the associated assets. However, to date, distribution over land, such as by truck, has often been less collaborative, with carriers frequently shipping goods from just a single manufacturing source.

Collaborative distribution is of interest to these paper authors and to the Environmental Defense Fund as it is believed that, with more frequent collaboration, industry players can reduce their transportation carbon footprints by up to 25\(^3\). Furthermore, such wins would not simply be ecological, as fewer trucks making suboptimal, less-than-truckload trips could be more economical for many stakeholders.

Interestingly, although collaborative distribution is not a new idea or practice, it is more often the exception than the norm. This report seeks firstly to understand the hesitations among industry players in pursuing collaborative distribution. Secondly, this report presents a number of hypotheses around how adoption and diffusion of collaborative distribution might be stimulated on a large scale. In evaluating various options, this paper considers diffusion of collaborative distribution to be the key objective.

Analysis was based on data from both a review of relevant literature as well as interviews with representatives from the following industry stakeholder groups:

1. Shippers: manufacturers or importers who distribute goods.
2. Third Party Logistics Providers (3PLs): organizations providing supply chain management services such as warehousing, transportation and cross-docking.
3. Carriers: companies providing logistical assets to move goods physically from one place to another. Examples include trucking companies, shipping companies and airlines.
4. Retailers: entities that receive goods and sell them to end consumers. Examples include Walmart, system integrators and third party dealers.

The basic finding is that fears surrounding the sharing of necessary data, and uncertainties around the resulting economic costs or benefits, have been precluding wide-scale adoption of collaborative distribution.

---

\(^1\) Kane Chris, Collaborative Distribution: How CPG manufacturers and retailers can save millions and embrace the green revolution, *Kane is Able*, 2009


\(^3\) EDF, http://blogs.edf.org/innovation/2012/04/11/come-together-collaboration-leads-to-savings/, accessed 05/10/2012
2 Collaborative distribution today

Collaborative distribution is the sharing of distribution resources between two or more shippers to send their goods within a common logistics network. This collaboration can include the sharing of a carrier, such as a truck, railcar or container from point A to point B, and also backhaul matching such that a carrier does not have to return empty\(^4\).

In pursuit of basic economic returns, some shippers today do in fact collaborate. The implementation has traditionally been accomplished in two ways: co-loading and continuous move routing.

- **Co-loading**: Combining less-than-truckload (LTL) freight from multiple shippers to create full truckloads. As a result, participating shippers realize the financial benefits of mode shifting, while optimizing the use of their assets.

- **Continuous move routing**: Consolidation of collective truckload (TL) shipments to create ongoing movement of freight that reduces one-way movements, empty miles, and high-cost minimum charges. Multi-stop trips replace separate shipments, reducing costs as shippers maximize their assets.

In one instance described during an interview with a 3PL, two competitors in the beverage industry were making opposite one-way shipments on a regular basis along the East Coast. When they realized the opportunity they were neglecting, the companies modified their operations to take advantage of backhauling and reduce shipping costs.

3 Enablers and barriers in collaborative distribution

3.1 The enabler will be the economic benefit

If shippers are to adopt collaborative distribution on a broader scale, almost unanimously, each of our interviewees indicated that, first and foremost, the economic benefits must be clear.

Fortunately, through multi-shippers collaboration, various shippers, even competitors, can leverage their collective freight activities to maximize asset utilization, save money, and meet delivery deadlines.

Optimized asset utilization provides perhaps the timeliest of economic benefits in multi-shipper collaboration. Such a tactic enables shippers to increase capacity within their core carrier bases. Most importantly, this strategy maximizes motor asset utilization for the collective benefit of all shippers.

Another avenue in cost savings lies in the reduction of inventory. Through collaboration, a company can better plan and schedule shipments. This may be counter-intuitive given that collaboration implies increasing supply chain complexity and more coordination efforts, which can hamper scheduling. However, through collaboration, shippers can increase the pool of goods for shipment which enables goods to be sent more frequently, thereby reducing inventory costs as shippers and retailers ship less per trip. More frequent shipments can also lead to better on-time performance as higher frequency leads to better predictability and reliability. Such cost savings will also make logistics more affordable for

\[^4\] Mathers J, Smart Moves, Environmental Defense Fund, 2012
small manufacturers, leading to a virtuous cycle in which an increasing number of manufacturers collaborate, thereby bringing costs down and improving supply chain quality.

The positive effects of collaboration initiatives are also not restricted to shippers; they can extend to carriers, drivers, and consignees. For example, continuous move routing may be particularly attractive to carriers. If carriers can get their equipment in and out of markets with little or no empty miles, their freight becomes more attractive to those carriers that can afford to cherry-pick routes. This scenario also works well for drivers. Drivers are usually paid per shipment, and a continuous move route returns drivers to their origin while reducing empty trips. It also becomes a desirable route for owner-operators, especially as fuel prices continue to surge. Consignees benefit from reduced transportation costs and improved, consistent service.

3.2 Barriers and hesitations
Even though collaborative distribution promises significant cost savings and carbon emissions reductions, many industry players have hesitated to adopt collaborative distribution in full.

Most prominently, shippers have hesitated to engage in any operations that require sharing shipping data with competitors. According to one consulting firm in the industry, data sharing can be a sensitive area for shippers, especially if with the data a competitor could ascertain the level of success of a given marketing campaign. In sharing shipping data, especially highly granular data, some shippers may fear they would be revealing strategic insights into markets relevant to their operations. According to a 3PL that has facilitated collaboration between shippers, some shippers have been hesitant to share shipping data because such data can reveal where one shipper is getting a better deal than another with a retailer or carrier, generating tension that could ultimately homogenize any fortunate advantages.

A secondary perceived risk among shippers is that there are insufficient route overlaps to justify initial investments into collaborative distribution. According to a different 3PL, partner shippers have attempted to share data and collaborate on distribution plans. However, after initial efforts, these shippers concluded that, more often than not, common points of operation were simply not discoverable. For these shippers, it wasn’t worth altering business operations just for the few chance instances in which overlaps might occur. However, it is this project team’s belief that if much of the evidence available to shippers stems from a few so-far unsuccessful attempts, it is in fact imaginable that skepticism would preside. With the right analytical tools (described below), potential synergies could be better identified.

Lastly, the information systems technology required to implement such a simple concept as multi-shipper collaboration can be considerable. Although the technology is available, operational changes can require substantial planning and negotiation.

Some players in the industry have dismissed multi-shipper collaboration as they claim it would require a shift from focusing on each shipper’s individual operations to becoming a part of a larger shipper community. This is a bigger step than many companies are currently comfortable in taking. Therefore, new approaches addressing these concerns are required before collaborative distribution will be widely adopted.
4  What new steps can be taken to stimulate collaborative distribution?

According to several interviewees, precisely how to overcome the described barriers and stimulate diffusion of collaborative distribution is not fully clear. Furthermore, it has been uncertain just which industry groups hold the greatest influence and may serve as reasonable catalysts.

To help think through an approach, one might turn to the adoption of containerization in the 1950s, a service that offered up costs savings—and prompted resistance—that may be analogous to those in collaborative distribution.

4.1 Taking Lessons from Containerization

In the 1950s, Malcom McLean and the Pan Atlantic Steamship Corporation launched a cargo service carrying containers of goods by sea from Port Newark, New Jersey to Houston, Texas. In less than eight hours, cranes would lift 58 cargo containers from trailer trucks directly onto a ship, and the ship would set sail to arrive in Houston just six days later. Not only was the service revolutionary in its use of these specially-designed containers, it promised cargo shippers a 20% cost savings compared with sending freight overland by truck.\(^5\)

Nonetheless, customers hesitated to use the service. It was uncertain just what risks were associated with sending cargo by sea, whether from tumultuous weather conditions or simply the flexing of the ship’s hull as it bobbed in the water.

To convince customers of the merits and viability of containerized at-sea shipping, McLean took a two-pronged approach. Firstly, he demonstrated the safety of the method. In one instance, McLean’s partner KW Tantlinger purchased small blocks of children’s clay and placed them within the few inches of clearance between the edge of each cargo container and the ship’s cell-guide rails. After the ship arrived at its destination, Tantlinger removed the several blocks of clay and measured how much the containers had caused them to compress throughout the journey. The blocks had compressed at most 5/16 of an inch, demonstrating that despite their exposure to at-sea conditions, containers did not risk shifting or squeezing.

The second prong in McLean’s approach was pure old-fashioned sales. McLean hired and led a sales force in a way that, according to one of his sales people, “inspired devout loyalty among his salesmen.”\(^6\) Despite initial hesitations, eventually McLean was able to enroll such accounts as Nabisco, Heublein, Gillette, and Melville. Furthermore, over time, sales became easier as customers reported successful and safe deliveries of goods.

A final factor in the success of the containerization business, more contextual than directly attributable to McLean, was its timing. Several others before McLean had pondered the viability of an Atlantic-coast sea freight service, yet the acquisition of sufficient ships to launch such a service involved a significant capital investment. Fortunately for Pan Atlantic, the end of World War II resulted in an excess of federally owned ships that Pan Atlantic was able to acquire (after sufficient negotiation) relatively inexpensively.

---

\(^5\) Donovan, pp. 34 - 68
\(^6\) Donovan, p. 62
4.2 Stimulating adoption and diffusion
As in the containerization example, collaborative freight distribution presents clear cost savings for shippers. Yet also as in the containerization example, shippers, despite these savings, have hesitated to engage in collaborative distribution, expressing uncertainties around various perceived risks.

With containerization, risks and fears were ultimately able to be dispelled and the promised cost savings ultimately realized. With the right support and approach, 3PLs may also be able to demonstrate to shippers that the potential cost savings in collaborative distribution are valid, and that the risks can be overcome.

4.2.1 3PLs sell collaborative partnerships using existing route overlaps
There are differences between the context that led to containerization in the 1950s and the context surrounding collaborative distribution promotion efforts today. Namely, realizing the full potential of collaborative distribution will require internal operational shifts among shippers to allow routes across shippers to overlap. In the containerization example, shippers needed no more than to overcome their fears of sending goods out at sea before they could enroll in a containerization service and realize its cost savings.

However, even if smaller than ultimately desired, there may be some immediate such cost savings that shippers can already realize today. If only shippers would overcome their fears of information sharing or of uncertainties surrounding the size of the opportunity, 3PLs could help groups of shippers search for existing route overlaps.

Pan Atlantic was able to stimulate adoption of containerization through pure direct selling of the service to shippers and through launching demonstration projects to overcome shippers’ fears. Today, 3PLs may be the correct parties to embark on comparable such sales efforts and demonstration projects. In fact, according to one interviewed 3PL, a company like it should be able to encourage retailers and suppliers to get involved and create a collaborative program given that the logistics behind such a program would be a natural offering from a 3PL.

According to the same company, the current challenge is that such an effort would take time and resources from a 3PL. However, if time and resources could be augmented through support from organizations such as EDF, academic institutions, or other interested parties, a 3PL could presumably create such an offering, create a demonstration project to show that data in the hands of the 3PL is safe from competitors’ eyes, and then sell the offering. Of course, the security of shipping data in the hands of a 3PL cannot be proven overnight. Yet initial demonstrations will help enroll early adopters. Then, as with fears about sending containerized cargo out at sea, fears about data security will subside over time as more and more shippers collaborate and 3PLs repeatedly prove themselves trustworthy.

4.2.2 Eventually, 3PLs demonstrate even greater savings through route modification
Eventually, after 3PLs have helped a number of shippers identify current opportunities for collaborating, they will have collected a reasonable amount of data from various shippers showing typical routes, schedules, and fluctuations. The availability of this data in a centralized location could provide an opportunity for 3PLs to identify even greater opportunities for collaboration across shippers—and hence greater cost savings—if only shippers were able to shift aspects of their own internal operations.

With this data in hand, 3PLs could quantify such opportunities and present them to shippers. Although shippers may at first be hesitant to make the necessary modifications in internal operations, they may
choose to incorporate these opportunities into their long-term processes if the benefits are sufficiently large.

As in the initial data-sharing-only stage, if 3PLs find themselves constrained for resources to run such analyses, they may be able to solicit support from EDF, academic institutions, or other interested parties. (Such third parties could even contribute further benefit by analyzing data from across a range of 3PLs.)

4.2.3 Support platforms and forums for shippers to identify sporadic agreements
Alternatively, or in parallel, to the promotion of collaborative distribution through third parties, direct interaction between shippers could be encouraged through the promotion and consolidation of web based forums so as to create a central meeting point for shippers to find matching routes for the following weekly delivery and share the costs.

This type of collaboration may be challenging as it requires a direct involvement of a major number of players. The main barrier would be in expanding its base such that sufficient potential collaborations arise to make its use attractive.

However, some experiences already exist in other fields, like the Coworking Google group, a “global community of people dedicated to the values of Collaboration, Openness, Community, Accessibility, and Sustainability in their workplaces”. This group, in fact, spontaneously presents some requests for shared shipments by small producers. Creating a more formal but equally spontaneous platform for encounters might be a good way to facilitate intermittent collaborations.

The main advantage of this initiative is that it is not cost intensive, and getting some early adopters on board could facilitate a quick spread of its use, by word-to-mouth promotion. Also, the fact of being based on sporadic collaborations requires minor commitments, which might make it useful for smaller and undecided players. The targets of this initiative would therefore be shippers with irregular routes with no interest in collaborative distribution due to the impossibility to reach perpetual partnerships.

4.2.4 Facilitate open database to match shippers for lasting collaborations
A 3PL or an organization such as EDF could also create an open database to spot overlapping routes and facilitate long-lasting agreements among shippers. This database would require further profiling of the participants, with specification of their basic routes, in order to let other players analyze potential matches.

This initiative presents two main handicaps, but both can be addressed:
First, some companies may be reluctant to express their routes in an open database. However, firms will not have to provide exhaustive informative about their distribution channels and zones. For the initiative to work, publicly available information is sufficient because basic routes are often not confidential information. Besides, unlike the open forums, the database could include require membership to access the details in other companies’ profiles.

Second, some interviewees have expressed concern regarding the scarcity of route overlaps that would facilitate permanent agreements between companies (see section 3.2). However, the intention of the

7 http://wiki.coworking.info/w/page/16583831/FrontPage
The database is to provide data for strategic decision making at the supplier’s level. The advantage of this strategy over the 3PL intervention is that suppliers can decide to change their routes or look for new distribution areas by taking into account possible synergies with existing suppliers. In other words: they can force new routes to overlap, if that proves economically advantageous.

At a further stage, the technology of the database could be improved to automatically identify and facilitate some matching. Analogous to the new role of 3PLs suggested in section 4.3.3, the system would offer visibility so shippers for them to accept or reject their portion of the co-loads and/or continuous move routes, and check shipment status online. This complexity, however, will require a third party agency supervising the system, and the natural role would go back to 3PL logistics, but this time with an open-information policy. This database can also be managed by industry associations or NGOs like EDF if they hire qualified professionals.

4.2.5 What might not work?

It may be tempting to consider whether broad external pressure, or the pure education of industry players on the sustainability benefits of collaboration, may also help stimulate adoption and diffusion of collaborative distribution. While such approaches could conceivably catalyze adoption on the margin, as mentioned, interviewees almost unanimously indicated the need for economic benefits before further collaboration can even be considered. Any approach to stimulate a successful diffusion must begin by demonstrating its economic value and facilitating a process wherein that value can be realized.

4.3 What potential early adopter groups could help diffuse collaborative distribution?

Given that the above initiatives may help stimulate collaborative distribution, it is important to identify the first participating players who could be targeted by EDF or other interested parties. To classify them, the team focused on the following parameters, shown in Figure 4-1.
4.3.1  **Transported Goods**
During interviews, one industry consulting firm identified fast moving Consumer Packaged Goods (CPG) as suitable products since high turnover rates of this product segment require frequent distribution. This practice increases the likelihood of inefficient truckloads, offering a great potential for collaboration. An interviewed 3PL also mentioned that due to the fact that collaborative distribution might adjust the distribution schedules of companies, non-perishable CPG might be even more ideal for flexibility reasons.

4.3.2  **Shipping Company**
Another interviewed 3PL suggested a focus on mid-tier shippers with excess capacity due to the difficulties with small- and large-size shippers. Small companies might face difficulties in offering a wide customer base to foster collaboration efforts while large shipping companies might already run their logistics fairly efficient and might not find large cost savings in collaborating. Incentivizing big shippers might therefore be difficult.

An interviewed academic transportation researcher highlighted another interesting issue. He mentioned that companies who are in the process of expanding or building new warehouses might be a good target. The reason for this is that though most companies tend to be hesitant towards changing their operations, they may be open to collaborate before making investment decisions.

In addition, the interviewee suggested identifying companies that could benefit from collective bargaining powers, for example, shipping containers overseas or using rail companies. Another opportunity may be to connect shippers of heavy/dense goods with ones of light/high volume goods.

As mentioned in section 3.2, data sharing is one barrier for collaboration between shippers. Therefore, shipping companies that do not consider the necessary data sharing as a competitive disadvantage, e.g. two companies without any competition against each other, can act as early adopters.

4.3.3  **Third party logistics provider (3PL)**
For the same reasons as above, the project team believes that a focus on mid-tier organizations would lead to quick results regarding collaboration. A mid-size logistics provider might still have excess capacity, which gives potential for cost savings. In addition, one can expect a mid-size provider to have a sufficiently large set of data to be able to implement collaboration.

In a 2011 study by American Shipper, shippers were classified by their position on sustainability investments (see Figure 4-2). To reduce necessary efforts to convince 3PLs to make use of collaboration in transportation, the 13% most committed shippers could be approached to become early adopters.
4.3.4 Retailer
Retailers with a desire for a sustainable brand and a focus on customer sustainability could be potential early adopters. When trying to identify these retailers, one interviewed 3PL suggested finding companies who are looking to charge a premium for being sustainable. As discussed with another 3PL, a quick win for collaboration could also be to target retailers with power over a large number of suppliers. Those retailers could simply set rules for their suppliers to work more closely together.

4.3.5 Logistics Network
Overlapping routes and networks were described by an academic transportation researcher to be the ideal basis for collaboration in logistics. In this regard, a 3PL recommended identifying companies seeking to reduce their large transport spans. In addition, companies with unidirectional transportation could find collaborating very opportunistic.

4.3.6 Company Culture:
Depending on the extent of the collaboration, further issues may be important to consider. An interviewed manufacturer of consumer beverages who has successfully engaged in collaborative distribution suggested that there is a wide variety of opportunities for collaboration with different companies, and similarities in culture and values are crucial for success. An interviewed 3PL suggested looking for companies with open-mind cultures and flexibility toward trying something new.

To identify companies, EDF could also look at companies with symbiotic partnership in other ways. The collaboration between Ocean Spray and Nestle (refer to reference in bibliography) can be taken as a successful example.

According to the manufacturer mentioned above, the creation of shared values allowed it and its partner company to leverage economies of scale and share best practices in Manufacturing, Procurement and Logistics, which, as a result, lowered supply chain costs for both companies.

---

8 American Shipper, http://www.americanshipper.com/NewWeb/greenreport/, accessed 05/05/2012
Additionally, the companies established a steering committee, which focuses on a constant optimization of both supply chains from procurement through manufacturing and distribution. This has resulted in immense savings for both companies.

The team realizes that a basic collaboration (e.g. through a 3PL) does not require companies to have a common culture. Nevertheless, the team wants to emphasize that having shared values can ease collaboration efforts between organizations.

5  Recommended strategy: what role can EDF play?

EDF itself can encourage diffusion of collaborative distribution in the industry.

Figure 5-1: Suggested roadmap for EDF to encourage collaborative distribution.

5.1.1  Step 1 – Create a showcase

In the team’s interviews, many interviewees shared the necessity of collaborative distribution to generate financial benefits in order to become successful. Additionally, as discussed above, industry experts have raised concerns over the feasibility of collaboration in logistics due to complex issues.

The team suggests EDF can create a successful showcase to mitigate these concerns and prepare the way to convince a wide audience of collaboration. To achieve this, EDF could partner a mid-size company out of the EDF network, preferably an organization that is hesitant towards collaboration.

Within the next six months, EDF could work on a project with the partner company to create awareness about opportunities, identify a collaborator, and analyze cost savings and environmental impact of the partnership. A group of graduate students could potentially support EDF during this case study.

In case EDF wanted to target different interest groups more specifically, the team recommends EDF create multiple showcases. However, due to the importance of achieving success in these demonstration cases, the team suggests not to work on more than three different collaborations during the first six months.

Potential variations for different audiences include:

- **Approach a mid-size 3PL** since analysis showed that this segment should have a big incentive to extend their customer base, eliminate the barrier of data sharing (since data is kept confidential), and have a perfect business model to promote collaboration. The 3PL should then target mid-size shipping companies since those companies appear to have huge potential for collaboration but struggle to identify partners. The focus for EDF should be to help frame the marketing efforts of the 3PL in a way that both cost savings and sustainability impact are communicated to potential customers. Thereby, EDF can provide soliciting testimonials as suggested in section 4.2.1 in case 3PLs themselves are worried about coming across as too sales-like.
b. **Approach two shipping companies** with similar networks, preferably in a business segment where data sharing is not seen as a competitive disadvantage. EDF’s focus in this showcase should be on the initial analysis to identify the two companies since this challenge has been mentioned as the biggest barrier for collaboration. Next, EDF should compute baseline cost data before advising the two companies on the implementation of the collaboration efforts. Having a solid baseline of both companies will help in the computation of savings through the initiative, and this can be presented at conferences as a case study.

To create momentum through the showcase, the team suggests EDF makes use of the U.S. Freight Sustainability Summit\(^9\) 2012 as a forum at which results of the study can be presented. Thereby, the summit can function as promotion platform to create awareness and engage in discussions with industry leaders.

A World Economic Forum report in January 2012 showed that 55 percent of the surveyed FTSE 100 companies would like to achieve sustainability targets within a 1-2 year. As such, the team advises EDF to complete all showcases within 1.5 years and through them, prove that the 1-2 year timeframe is feasible for collaborative distribution. However, the first showcase should be presented after six months as suggested above so as to build momentum.

![Figure 5-2: Sustainability target timeframes for FTSD 100 companies (source: World Economic Forum, 2012).](image)

---

\(^9\) U.S. Environmental Protection Agency, [http://www.epa.gov/smartway/partner-resources/summit.htm#tabs-1](http://www.epa.gov/smartway/partner-resources/summit.htm#tabs-1), accessed 05/02/2012

5.1.2 Step 2 – Leverage early adopters
In a next step, the team recommends EDF approach companies which possess the characteristics described in section 4.3 of this report. The team also suggests EDF targets third party logistics providers at this stage since this group offers unique features that simplify collaboration. These aspects include the positioning as intermediary, the ability to overcome the barrier of data sharing by providing confidentiality to all parties provided, and the knowledge of network and distribution scheduling of retailers and shippers.

EDF can start by identifying potential mid-tier shippers that would benefit from collaboration. In a next step, EDF can then select five third party logistics providers and approach them with an individual set of potential clients (out of the group of identified mid-tier shippers). After a successful implementation of the collaboration efforts at the first five third party logistics providers, EDF could expand the scope using the same strategy.

As mentioned in section 5.1.1, the following ideas can appeal to a large pool of 3PL companies:
- Provide 3PLs with targeted potential customer lists based on outlined characteristics above to overcome the difficulty of identifying suitable companies.
- Establish strong partnerships between EDF and selected academic institutions and/or multi-stakeholder committee to increase EDF’s credibility even further when targeting new 3PL.

5.1.3 Step 3 – Broaden knowledge
To further raise awareness and broaden the knowledge, the team suggests a multi-channel marketing strategy.

a) Continual presence at sustainability conferences, such as the U.S. Freight Sustainability Summit\(^\text{11}\), the MIT Sustainability Summit 2013\(^\text{12}\), or the 2013 Climate Leadership Conference\(^\text{13}\) to continue convincing business leaders interested in sustainability.

b) Presence at logistics and supply-chain conferences, as the Retail’s Supply Chain Conference - Logistics 2013\(^\text{14}\), or the Council of Supply Chain Management Professionals (CSCMP) Annual Global Conference\(^\text{15}\) so as to raise awareness outside the sustainability space.

c) Obtain media coverage in a wide range of publishers including “Environmental Leader”\(^\text{16}\), “Inbound Logistics”\(^\text{17}\), or “GreenBiz.com”\(^\text{18}\)

d) Strengthen relationships with influential industry associations, like the American Society of Transportation and Logistics to leverage the marketing efforts.

e) Seek new partnerships to further promote collaboration. For instance, EDF could connect with environmental consulting firms to get more impactful organizations on board. The advantages of choosing environmental consulting firms include the wide reach of the companies, as well as

\(^{11}\) U.S. Environmental Protection Agency, http://www.epa.gov/smartway/partner-resources/summit.htm, accessed 05/04/2012

\(^{12}\) Massachusetts Institute of Technology, http://sustainabilitysummit.mit.edu/, accessed 05/02/2012

\(^{13}\) Association of Climate Change Officers, http://www.climateleadershipconference.org/, 05/02/2012

\(^{14}\) Retail Industry Leaders Association, http://www.rila.org/events/conferences/logistics/Pages/default.aspx, accessed 05/03/2012

\(^{15}\) Council of Supply Chain Management Professionals, http://cscmpconference.org/, accessed 05/03/2012

\(^{16}\) Environmental Leader, http://www.environmentalleader.com, accessed 05/03/2012

\(^{17}\) Inbound Logistics, http://www.inboundlogistics.com/cms/, accessed 05/02/2012

\(^{18}\) GreenBiz.com, http://www.greenbiz.com/, accessed 05/03/2012
the easy integration of the support into their regular business model of providing advice on how to make organizations more environmentally friendly (and profitable).

5.1.4 Step 4 – Facilitate implementation
Next, EDF could focus on helping organizations that do not meet the early adopter requirements engage in collaborative distribution. Through interviews, several interviewees mentioned the need for public and more transparent data. Therefore, EDF can launch innovative initiatives such as an open database to match shippers for lasting collaborations, or create support platforms and forums for shippers to identify sporadic agreements as described in section 4.2.4 of this report.

Additionally, the team suggests adjusting EDF’s Climate Corps\textsuperscript{19} program to offer emission savings program, in which MBA/MPA students support companies in finding partners to cooperate with.

5.1.5 Step 5 – Establish a brand
The last step in the recommended strategy is the creation of a strong, widely accepted and recognized brand. The goal of the brand should be that organizations strived to become affiliated with the brand by proving that they integrated collaborative distribution into their business. Ways to establish that brand could be to offer certifications such as ISO\textsuperscript{20} or LEED\textsuperscript{21} certification, publishing affiliated organizations (similar to the SmartWay\textsuperscript{22} program), or bestowing public awards to highly collaborative companies. In a successful analogous example, the Marine Stewardship Council\textsuperscript{23} certification has been able to promote sustainable worldwide fishing.

Having instituted a strong brand will create awareness to a wider audience and incentivize more organizations e.g. to get certified. This can thereby lead to a change of mindset which is required (as mentioned in section 3.2). To speed up this process, EDF should consider partnering with a governmental institution, or getting a few companies with a high reputation certified quickly.

6 Conclusion
Concerns surrounding data sensitivity and economic opportunity have precluded wide-scale adoption of collaborative distribution. But demonstrating that such fears are unwarranted and such economic opportunities prevail, an organization like EDF may in fact be able to stimulate the diffusion of collaborative distribution.

\textsuperscript{22} U.S. Environmental Protection Agency, http://www.epa.gov/smartway/basic-info/index.htm, accessed 05/02/2012
\textsuperscript{23} Marine Stewardship Council, http://www.msc.org/get-certified, accessed 05/04/2012
Bibliography

Environmental Leader, “Sustainable Supply Chain Data Book”, 2012
Environmental Defense Fund, “Smart Moves”, 2012
KANE IS ABLE, “Collaborative Distribution: How CPG manufacturers and retailers can save millions and embrace the green revolution”, www.kaneisable.com, accessed 04/05/2012
Ocean Spray, “Creating a Strategic Supply Chain Alliance: A Nestle and Ocean Spray Case Study”
Ryder, “Mixing and Consolidation Center (MACC)”, www.ryder.com, accessed 04/26/2012
Transport Topics, “Cooperation Alters Operations Among Warehouse Users”, July 2010