Innovative Transportation Solutions: Uber for Freight

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Summary: As with any other industry, the transportation industry is constantly evolving with new start-ups and technologies. One innovative transportation solution, Uber for Freight (UFF), seeks to more efficiently match shippers' loads with drivers and trucks through application-based algorithms. This research (1) defines the UFF model and its major players and processes, (2) distinguishes UFF from a traditional broker, and (3) analyzes the applicability of UFF to the sponsor company, a large multinational chemical seller.

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KEY INSIGHTS

1. Innovative transportation solutions such as Uber for Freight are disrupting the freight industry; shippers should monitor developments for applicability within their operations.
2. To evaluate Uber for Freight's applicability, companies should analyze each lane and product combination in terms of feasibility and risk (e.g. to customer service and safety).
3. While Uber for Freight has clear benefits and disruptive potential, it must be utilized with the appropriate products and customers; it is not a one-size-fits-all solution.

Introduction

New technologies are constantly emerging that disrupt industries and capture market share from stagnant incumbents. In the trucking industry, "Uber for Freight" (UFF) is one of these innovative business models.

These platforms are seeking to 'uberize' freight transport through algorithm-based applications that more efficiently match shippers' loads with drivers. While UberFreight is one of these startups, there are many other players emulating this model. By eliminating the middleman of a carrier or broker, these startups' value proposition is cost savings and increased efficiency. While UFF companies are already operating, shipments have been limited in complexity and have been mostly standard packaged freight.

This research's sponsor company, a large, multinational chemical seller, requested an analysis of UFF's feasibility within their operations. Through interviews with UFF companies and sponsor company representatives, this research analyzed the challenges and benefits of implementation. Based on these findings, several potential areas to pilot the use of a UFF provider were identified.

Approach

Early in the project, the researchers attended an UFF roundtable discussion comprised of some of the largest carriers and shippers from the United States. The goal of attending was to better understand the current state of UFF and stakeholder perceptions. However, it quickly became clear that there was disagreement on the definition of the UFF model among key players. Consequently, the researchers' first objective was to formally define the UFF model; this would be the backbone of the research. This model was synthesized through interviews with current UFF players as well as exploring similar business models. These processes (Steps 1-2) along with the remaining research methodology are depicted in Figure 1.

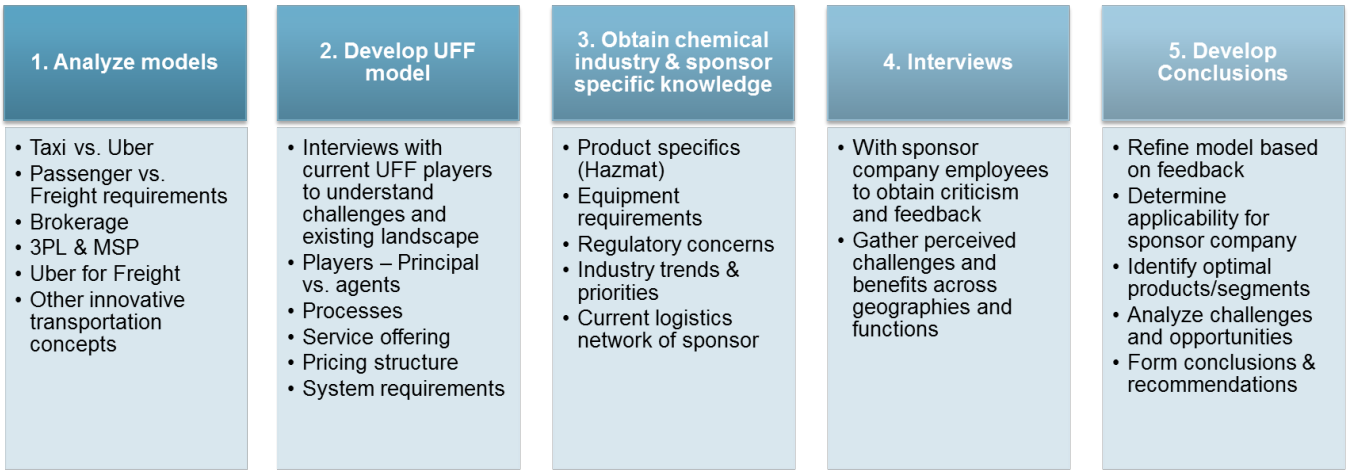

Figure 1: UFF research methodology

After formulation of the model (illustrated in Figure 2), specific industry knowledge was obtained through informal interviews and outside research. Understanding the complexities specific to chemicals would be critical in evaluating the sponsor company's case study.

Next, the researchers performed semi-structured interviews with eight sponsor company representatives across functions and geographies. An interview guide was developed so that these interactions could be relatively standardized. Additionally, all interviews began with a brief explanation of UFF to ensure that all interviewees had an adequate understanding of the model. Through these discussions, the researchers firstly gained a deeper knowledge of the sponsor company's operations (Step 3). Secondly, they developed a better understanding of the challenges and benefits that could accompany such a business model (Step 4).

For the sponsor company, one of the primary focus areas was to analyze whether the UFF concept could work with shipping hazardous materials (hazmat). Hazmat was an interesting problem due to the rigorous standards and high potential consequences in this specialized industry. However, even if the UFF business model was deemed too challenging for hazmat applications, it could still be utilized for less hazardous products. Thus, these areas were explored as well.

As shown in Step 5, the research and interviews were then combined to make recommendations about the potential applications of UFF within the sponsor company, including implementation steps.

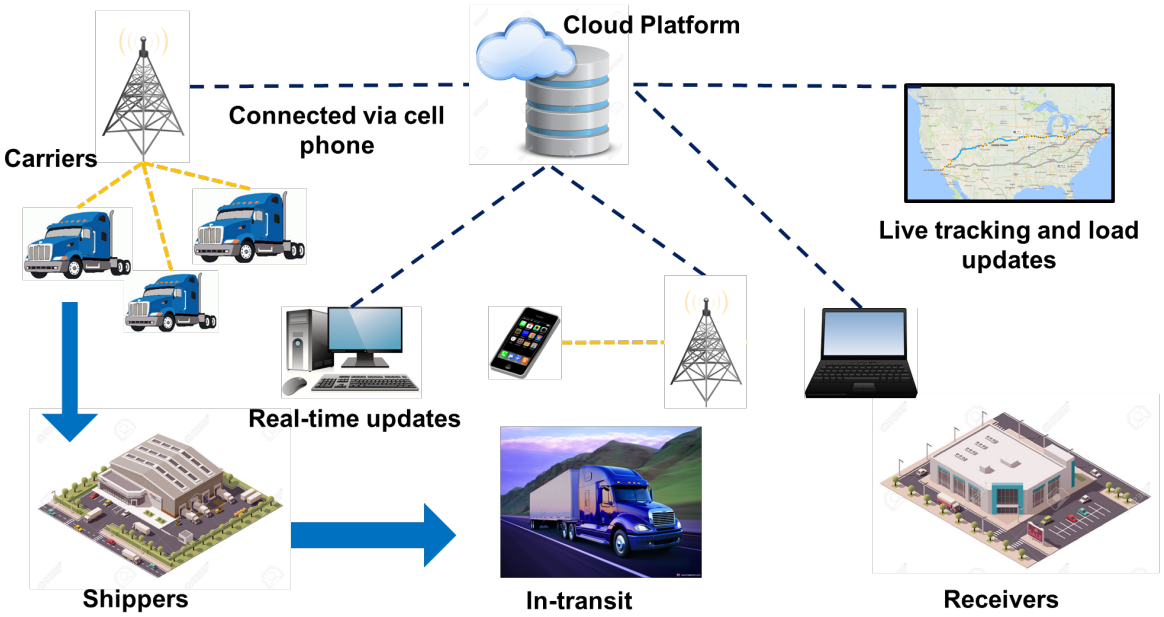

Figure 2: Graphic interpretation of the UFF model

The Uber for Freight Model

The UFF model is a fairly new and a continuously evolving model. To help construct the model, interviews with leading UFF companies were used to obtain knowledge on operational aspects of UFF. As one director of an UFF company explained, “Pricing and negotiation are done without picking up the phone.” This concept (as depicted in Figure 2) illustrates the ability for a shipper and carrier to communicate with each other without the traditional means of human intervention via a 3PL or broker.

Compared to the current method, via brokers and 3PLs, this process streamlines the entire transaction and removes the need for a human dispatcher. This decreases throughput time and reducing cost. As illustrated in Figure 2, a shipper in need of a carrier can utilize an application on a smartphone or a computer platform which provides visibility on spot market availability. In the traditional broker model, a shipper must call a dispatcher and wait to get an updated price. However, in UFF, an algorithm calculates the spot market price by determining the number of trucks that are available locally and the current demand (taking into consideration load requirements and driver or truck capabilities). If the shipper agrees and accepts the current spot price, an algorithm will match a carrier to the shipper based on load requirements. These load requirements can be based on size, weight, classification, destination, route, carrier qualifications and certifications. When the load is accepted by the carrier, the driver will then pick up the load at the desired time and location and deliver it to the receiver.

Results and Implementation

When debating whether to utilize this service for more complex freight, the question becomes: What value does the sponsor company place on visibility, hypothetically lower prices, and on-demand access to capacity? How do these potential benefits compare to the potential for additional risk or reduced service levels? The sponsor company prides itself on customer service and a commitment to safety. At least for the most hazardous materials, the benefits of UFF might not outweigh the uncertainties at this point in time. The potential environmental, health, and business costs of a major accident could be astronomical. It was recommended that the sponsor company wait to incorporate UFF for the highest levels of hazardous materials, at least in the near term; once UFF companies establish themselves through an extended period of safe operations and expand their competencies to properly accommodate hazmat loads, this recommendation should be reevaluated.

While UFF for hazmat was not deemed the best option for a pilot project, the sponsor company should still experiment with the model. The sponsor company can integrate UFF into non-hazmat or low hazmat business units. One category of ideal products could be commoditized items where business units are willing to sacrifice potential loss in service level for cost savings. These products are relatively standardized among competitors and each company competes primarily based on price. Small cost savings could provide a competitive advantage for business units of this nature. Prospective products (as depicted in Figure 3) should have minimal risk from a safety and requirements

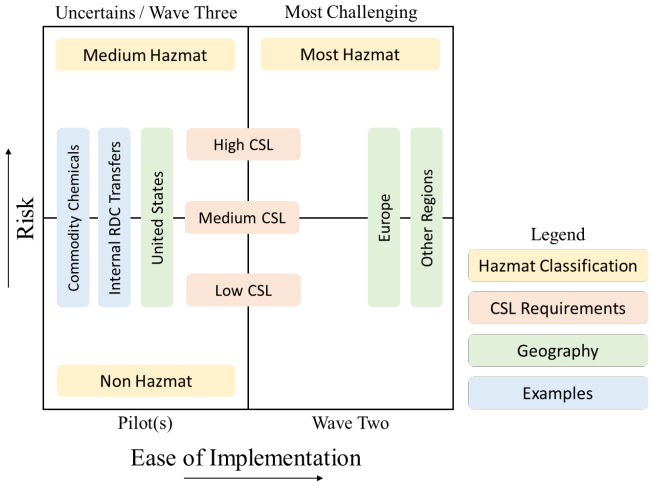

Figure 3: Risk vs. implementation matrix

(special equipment, procedures, etc.) standpoint. From a regional standpoint, North America is the best option to begin with. There are many more UFF companies to choose from and fewer language barriers as compared to Europe.

To mitigate risks further, lanes to, from or between Regional Distribution Centers (RDCs) are a good starting point for UFF. Training and requirements are less rigorous at some RDCs because they only deal with lower hazmat material. Additional factors for the sponsor company to analyze include service level, cost, reliability, density and safety record. After implementation, the sponsor company should continually measure performance of the UFF service. They should use the same KPIs for monitoring any other broker or carrier and determine reasons for success or failure. With enough data and conclusions, the sponsor company can choose to scale up or down depending on performance.

Conclusion

This study makes three main contributions to the sponsor company and to supply chain research. First, the UFF model, including its players and processes, has

been more clearly defined. Carriers, shippers, brokers and other industry stakeholders can utilize this research to better understand the UFF model. Second, the definition differentiated UFF as a subdivision of brokers, leveraging algorithm-based technology to remove some aspects of human intervention. Lastly, the implications of UFF within a chemical company were analyzed as a case study and specific implementation recommendations were made.

Opportunities for further research include focusing on similarly complex products such as perishables, defense or medical to better understand their complicating factors; each industry is unique in its requirements and UFF may or may not be a strong fit for all shippers. Additionally, once actual data is available from shippers and carriers working within the UFF model, further research could focus on quantifying the impacts to shippers and carriers as well as confirming the researchers' hypotheses of UFF's challenges.

Although UFF is still in its infancy, companies beyond the sponsor company should monitor developments and periodically evaluate UFF's costs and benefits. Each industry is unique in its requirements and UFF may or may not be a strong fit for all shippers. While UFF has clear advantages and disruptive potential, it must be utilized with the appropriate products and customers; it is not a one-size-fits-all solution.