Innovative Transportation Solutions: Uber for Freight (UFF)

Leah Davis & Joseph Lucido
Overview

- Sponsor Company
- Background & Motivation
- Methodology
- Defining the UFF Model
- Interview Results
- Recommendations & Conclusions
1. SPONSOR COMPANY
Sponsor Company

- Large multinational chemical company
- Wide range of products
  - Hazmat & Non-hazmat
- Wide variety of customers across industries
  - Varying service level requirements
2. BACKGROUND & MOTIVATION
• Desired improvement in these four areas
• Several innovative transport concepts on the market claim to address these concerns
  • Ex: Uber for Freight
What is Uber for Freight?

"The seamless matching of brokers, carriers, shippers, and receivers to reduce market inefficiencies via an electronic platform."
Uber for Freight (UFF)

- Experts have differing opinions on UFF’s definition
  - How does Uber for Freight differ from a traditional broker?
- Many companies already in operation
- None are successful on large scale yet
Research Goals

1. Define UFF
2. Distinguish UFF from traditional broker
3. Determine applicability of UFF within sponsor company
   • Challenges & benefits
   • Ideal segments for pilot
   • Implementation steps
3. METHODOLOGY
Methodology

1. Analyze current models
2. Define UFF
3. Obtain chemical industry & sponsor specific knowledge
4. Interviews with sponsor company
5. Refine model and deliver findings
4. DEFINING THE UFF MODEL
Traditional Broker Model

- Carriers
- Broker
- Shippers
- In-Transit
- Receiver

Broker calls for tracking
Questions for Understanding Business Models

- Perceived needs
- Innovation needed
- Structuring the model
- Key players and stakeholders
- What is the value added
Uber for Freight

Carriers

Connected via cell phone

Cloud Platform

Live tracking and load updates

Real-time updates

In-transit

Shippers

Receivers

MIT Supply Chain Management
UFF as a Service

Live tracking of shipments
- Streamline the shipping and receiving process
- Accident avoidance, routing updates & alerts to stakeholders
- Higher service levels

Certifications and matching
- Algorithm designed to match the right carrier for shippers specific needs (i.e. hazardous cargo)
- Algorithm does matching without the need for dispatcher

Payment
- Instant transactions

Rating system – Shippers, carriers, and receivers
- Multi-tiered to provide a detailed analysis of the end to end process
- Many factors including, quality, timeliness, condition of freight
- Define potential hotspots
UFF Drawbacks

Network Density
- Need a vast source of carriers and shippers
- Poor pricing and options without density

Data Security
- Data breaches releasing sensitive business data
- Possible target for terrorist attacks
5. INTERVIEW RESULTS
Interview Process

• Semi-structured
• Formal interview guide for consistency
• Brief overview of UFF model
• Eight interviews across geographies and functions
Perceived Challenges of UFF

- Equipment Requirements
- Driver Requirements
- Language Barriers
- Safety
- Insurance & Liability
- Regulatory
- Service Level Guarantees
- Data Integration
- Scale
Perceived Benefits of UFF

- Capacity Gaps
- Increased Flexibility
- Filling of Backhauls
- Reduced Costs
- Increased Visibility
- Improvement of Infrastructure Issues
6. RECOMMENDATIONS & CONCLUSIONS
Implementation

Products

Geography

Scale

Risk

Ease of Implementation

Uncertains / Wave Three

Most Challenging

Medium Hazmat

Most Hazmat

Commodity Chemicals

Internal RD&C Transfers

United States

European

Other Regions

Low CSL

Medium CSL

High CSL

Non Hazmat

Legend

Hazmat Classification

CSL Requirements

Geography

Examples

MIT Supply Chain Management
Choosing a UFF Provider

- Safety
- Service Level
- Cost
- Density and Capability
Post-Implementation

- Monitor for trends
- Collect and analyze data
- Scale up or Down?
Opportunities for Further Research

• Other complex product categories
  • Perishables, defense or medical
• Quantifying impacts to shippers and carriers once UFF is operational
• Confirm or alter researchers’ hypotheses of UFF’s challenges
Thanks!

Any questions?

Leah Davis
leahsdavis@alum.mit.edu

Joseph Lucido
lucido@mit.edu