

# CSCMP hottopics

JUNE | 2022

## The Evolution of the Transportation Broker through AI/ML/RPA

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The thought of the transportation broker going to the wayside or the hype of Uber (May 2017) taking over makes me wonder, "what is next?" I don't see people being replaced by robots or freight loading and delivery without people involved. Based on my observations, I don't expect most people today to see this either. It will have all been a dream – a dream that will lead to many efficiencies in our industry, but a dream, nonetheless. The reality is the present-day brokerage is no longer a simple transaction conducted over the phone with a simple handshake and thermal fax machine. The brokerage, like many business models nowadays, will continue to evolve, but the reality is that none of this can happen without people involved.

### TECHNOLOGY IN MODERNISTIC BROKERAGE

The modernized broker is essentially a machine run by people. The brokerage evolution is moving faster and faster in high gear with no brakes in sight. The present-day broker/3PL takes on many forms, from arranging transportation with the shipper to warehousing and any other service in between; anything that needs to be arranged to move goods from the stage of raw material to the end consumer.

The past 3 years have required supply chains and technology to address gaps that cause disruption or failure. As a result, the shipper has relied on the 3PL more than ever to help fill these gaps. This has resulted in a very sophisticated hi-tech broker/3PL model that collects data to drive efficiencies, automating certain manual tasks along the way. Making the transportation broker in higher demand than ever before, addressing more areas of transportation modes and warehousing than many ever thought possible. Think of this as a shift from viewing technology as the enemy, to viewing technology as that pressure release valve for employees, allowing for more possibilities than ever before.

### USING DATA TO DRIVE EFFICIENCY

The primary core of the business still focuses on arranging the movement of freight between the shipper, the carrier, and the consignee (consumer). And while the core function of the brokerage remains the same, many forms of technology are now integrated into daily processes, collecting data along the way. All this data, however small, contributes to the AI (artificial intelligence) and ML (machine learning) to better identify, and more importantly, predict the needs of the customer, carrier, and consumer to streamline operations and drive efficiency in the supply chain.

Understanding what is important to those you serve is key to any business, and the modern brokerage is no different. Developing tools to capture data and create efficiencies for shippers, receivers, warehouses, carriers, and people, is crucial in today's marketplace. The addition of robotic process automation (RPA) tools is a solution that allows people to do more with less stress. In the past, this technology was something only a select few brokers could afford, and many others could only dream of. Nowadays, most of the middle market 3PLs can step into the game and compete and supply a value-add service to their customers.

### MACHINE LEARNING FOR PRICING, SOURCING AND RISK ANALYSIS

The modern broker is upgraded and equipped with the tools of the future. They use machine learning applications to teach CRM's, TMS's, and ERP's the ability to learn, understand, and improve automation from self-experiences, without being explicitly programmed to execute those tasks. Machine learning focuses on the development of computer programs that

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can access and collect data and use it to learn autonomously. Combining machine learning with artificial intelligence and robotic process automation can make it even more effective in processing large volumes of information with great accuracy in less time, especially for repetitive tasks.

Today, the broker must be fast and accurate when pricing a 10,000-lane contract or one-off spot bid lane. Orders from clients trigger the automation that uses algorithms to create accurate pricing models based on truck loading and unloading times, weather, holidays, and seasonality. Technology can scan through emails for pricing requests, providing immediate pricing for the one-off spot shipments, or scale up to quote thousands of lanes simultaneously.

The pricing history is developed based on the data collected from contracted carriers making pick-up, delivery, and ELD (Electronic Logging Devices) data. Data is collected on the carrier's wait time, dock time in-and-out, driving time, handling, accessorial, and any other data that contributes to accurate pricing decisions and risk analysis. The technology also compiles data on different carriers to make the best match for the lane based on the requirements of the freight shipper, connecting the carrier most qualified for the lane to satisfy the contract.

### **AFFORDABLE DIFFERENTIATORS**

With AI/ML/RPA solutions becoming a more affordable technology, brokers can purchase segments of this technology and continue scaling up over time. This allows for small and midsize brokers to continuously invest in technology to expand their communities of networks and share data with their customers and carriers strategically. These cluster communities will become more developed into niche markets, allowing for the small-to-midsize brokers to compete with the larger brokers listed in the Top 100 in Transport Topics or Inbound Logistics.

The real value of technology development in the modern-day brokerage is how it can preserve the health and wellbeing of the people in all areas of the supply chain, creating more excitement for this career path.

The past two years have made us aware of the need for communication in the supply chain. Will communication ever be completely replaced by AI, robots, or blockchain? I would say people are great, and technology is unpredictable. These are simply great tools to make operations run more efficiently. A strong mix of technology with a healthy mix of people makes for a robust and vibrant work culture. The fundamentals of the supply chain are simple, yet the complexity of the supply chain continues to change on a daily basis.

### **APPLICATIONS FOR AI/ML IN THE BROKERAGE ENVIRONMENT APPLY TO THE FOLLOWING:**

#### **RPA Robot-Workflow Automation**

- Ability to read email, email attachments, invoices, invoicing reconciliation, email load updates, tender acceptance

#### **Customer Development and Identification**

- Ability to identify buying signals, create alerts

#### **Annual Contracts-Augmented Bidding**

- Buy pricing models for annual multi-lane contracts for the shipper are more predictable for the life cycle of the contract based on purchase price of capacity. Consideration that can affect pricing i.e., fuel, load and unload times, hours of service, historical seasonality, and capacity.
- Sell pricing models for contracted annual multi-lane contracts for the carrier. This also creates pricing models for the carrier taking into account many of the same considerations as the shipper.

## About CSCMP Hot Topics

Issues of *CSCMP Hot Topics* may include early results from ongoing research being conducted for CSCMP or other organizations; new supply chain practices, thought-provoking ideas, or emerging trends; discussions of changes in the broader business and regulatory environment that may impact the supply chain and logistics field.



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### Appointment Scheduling

- This function becomes a robot automated with API (Application Programming Interface) connections and schedules the best time for the carrier based on hours of service.

### API Pricing/Spot Bids

- TMS System receives data requests from email, API, or EDI (Electronic Data Interchange) and provides immediate pricing request returns 24/7 with Tender Acceptance

### Tender Acceptance

- Driven by EDI/API automation and data sets that predict available equipment now and in the future.

### Track & Trace

- Automated by ELD connectivity with carrier partners. This information is shared back to the shipper. This data is also added to the data set in the pricing tool for hours of service, loading and unloading time, and any other accessories.

### Rerouting

- Is predictive on pickup and delivery, OS&D, and Scheduling.

### Rate Engine

- Pulls in historical pricing data and uses algorithms of all the other combined data to create pricing models.

### Retail Demand

- Requested data transparency shared with customer and carrier for the benefit of continuous development of efficiencies in the supply chain.

### Dedicated Backhaul

- Builds lanes of traffic for dedicated contract carriers based on history, future contracted lanes, and pricing models.

*This article is based on the opinions of Prospanic Logistics and Co-Founder Jeff Lantz. This article solely reflects the direction that we have chosen to take through the utilization of technology to support work/life balance and while meeting the demands of the ever-changing supply chain.*

