RAILROAD WEEK IN REVIEW

August 25, 2023

"Artificial intelligence (AI) is still developing—along with related regulations and business uses — but it is likely to become ubiquitous. It won't be feasible to avoid exposure. Much like it's not practical to avoid being invested in "the internet" these days with companies across the spectrum of industries embracing online products and services." — Jeffrey Kleintop, Charles Schwab

"ChatGPT, which stands for Chat Generative Pre-trained Transformer, is a large language model-based chatbot developed by OpenAI and launched on November 30, 2022, notable for enabling users to refine and steer a conversation towards a desired length, format, style, level of detail, and language used. Successive prompts and replies, known as prompt engineering, are considered at each conversation stage as a context." — Wikipedia

"New layers of novel technologies can create challenges for railroads in tried-and-true maintenance and operations processes—traditional maintenance methods that haven't kept up with the pace of rapid technology innovation." — Railway Age

My theme of using technical stock analysis as a way to gauge future Class I railroad performance appears to have gained some traction. A long-time reader and subscriber writes, "Given the pared down scale of railroad networks today, I believe growth translates directly to financial performance. If better financial performance does not increase share prices then I'm buying gold." He has a point.

I use the MarketEdge ® technical analysis website to see in one glance the relative performance of all the players. Companies are ranked Long, Neutral, and Avoid based on their earnings curves. These translate into Buy, Hold, Sell. This page from last week's summary really jumped out at me:

"The following stocks in your Primary Watchlist are exhibiting warning signs or changed opinion on 8/17/2023. Canadian National and Norfolk Southern were downgraded to Avoid and readers are advised to consider closing position or initiating short position. Canadian Pacific is currently shown as a Long but is losing points and is close to slipping to Neutral. The share price has slipped below the sell stop, and investors are advised to either sell or go short."

Drilling down into Norfolk Southern, for example, we find that revenue units are off three percent year to date per their most recent carload report to the AAR. I continue to maintain that a big reason railroads don't see much growth in the carload sector has mainly to do with the lack of any competitive advantage. A big part of this is visibility of the shipment. Last week's comments in this regard barely scratch the surface.

The NS performance report submitted to the STB August 11 shows average dwell time for ten principal yards still averaging 25 hours. If I were a railroad customer seeing my carload of

merchandise languishing in a freight yard someplace for a day, I would not be a happy camper. A truck would have had that merchandise another few hundred miles closer to its destination in that period of time. We know for a fact that companies are trying to trim inventories to the exact size needed to fill orders. That means timely delivery is key. NS clearly fails on this score.

Nine of the 17 manifest carload commodities NS reports to the AAR were down year-over-year through Week 31 ending August 5. STCC 28 chemicals dropped more than 5,000 carloads, suggesting 20,000 truckloads lost. Some 3,000 carloads of building products went away. Channel checks with short lines reveal, for example, a thousand carloads of cement and aggregates that have been lost to trucks due to NS holding to old-school rate rules rather than embracing modern supply chain practices. One has to wonder how widespread this is in other commodity groups.

We are reading a lot about the promise and threat of artificial intelligence (AI) on all kinds of business. With respect to railroads, I think this is a shoe that really fits. The way I see it, AI can play a significant role in locating freight cars in transit by leveraging various technologies and data sources.

But if AI can do marvelous things to improve car tracing, why do we not see them out on the railroad? I think it is mainly the “not invented here” syndrome. Fact is, in today's fast-paced world, the efficient movement of goods is critical to economies and industries worldwide. With the integration of AI into rail logistics, a new era of efficiency, accuracy, and real-time tracking has dawned.

Artificial intelligence, with its ability to process vast amounts of data and make informed decisions, has a natural niche in the rail transportation sector. Thanks to AI's power, tracing the whereabouts of freight cars can become more precise, enhancing operations and optimizing logistics. The legacy systems that now dominate the space are not up to the task.

AI-driven technologies, such as GPS tracking and sensor data analysis, now offer real-time insights into the location, conditions, and movement patterns of freight cars. This real-time data enables logistics managers to make timely decisions, reroute shipments if necessary, and allocate resources more efficiently.

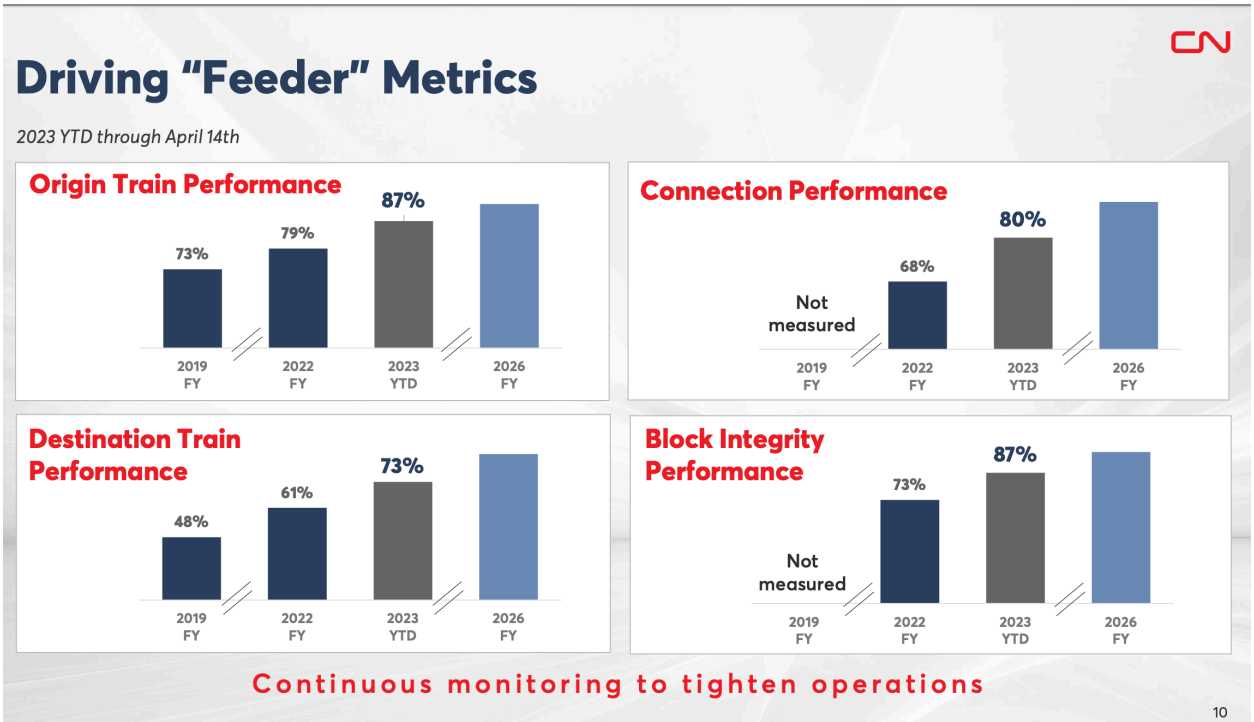
Predictive analytics, a hallmark of AI, has proven its worth in the rail logistics arena. By analyzing historical and real-time data, AI algorithms can forecast the future location of freight cars based on factors like speed, route, and external conditions. This predictive power empowers logistics planners to proactively manage schedules and optimize resource allocation.

Machine learning algorithms, another facet of AI, thrive on data. By training models on historical information, AI can learn to predict freight car movements accurately. This enables railroads to offer more accurate arrival estimates, reducing uncertainty for customers and enhancing competitive advantage vs. trucks.

Computer vision has opened up new dimensions in freight car tracing. Cameras now placed along core routes can capture images and video footage, which AI algorithms analyze to identify and track freight cars by their visual characteristics. This visual tracking provides an additional layer of accuracy to the tracing process.

The amalgamation of data from diverse sources, including GPS data, sensor data, historical records, and even satellite imagery, is where AI truly shines. By integrating this data, AI offers a comprehensive view of freight car locations, conditions, and trajectories, enabling logistics teams to make informed decisions. Looks like "not invented here" is a feature, not a bug.

Of course, running to plan and providing accurate car movement data requires discipline and goals. Here's how CN measures performance and provides predictive data to customers:



The only way to get numbers like these is to have accurate movement data, collected by any means that delivers the desired result. Over the years we've watched how CN's "Scheduled Railroad" has built customer confidence and built the customer base on a firm foundation of accurate movement data. I wish Wall Street would take note.