Big Data and Big Disruptions

What if they built a Big Data center for shipping, and nobody came? That was my first reaction to articles trumpeting the opening of a virtual data room that would be fed by shipping companies. The announcement, a few months ago, did not come out of the blue; rather it was the culmination of multi-year effort by one of the larger vessel classification societies. “Class” plays an integral role in creating standards for vessel construction, and inspecting vessels at periodic intervals to make sure that everything is “ship-shape”. Class inspections also provide a mechanism for enforcing international rules- acting, effectively, for Flag States, which don’t have the vast networks of “surveyors” at ports all over the world.

In recent months, interested parties have opined on shipping’s interface with Big Data, at conferences and in the trade media. In my view, the “Big” means vast amounts of bits and bytes not previously available that can now be generated aboard vessels and transmitted to repositories on shore (for further dissemination or analysis), due to improved and more economical communications. Long-time readers will note my skepticism when it comes to shipping’s uptake of any developments that come from outside the business, unless a regulatory gun is held to the industry’s head. Where greater transparency is a potential by-product, most industry participants will point to “…commercially sensitive information” and run, at full speed (no slow-steaming here, folks!) the other way.

The ability to monitor engines, and the like, remotely, could have a disruptive impact on the way that manufacturers and Class, increasingly intertwined, accomplish their work- examining things, certifying that all is well, and (if not) changing out kit. Under the old methodology, the manufacturer of a component (let’s say something like fuel injectors on sitting atop a large diesel engine) would estimate the useful life of the item, and then specify intervals for inspection and replacement. In recent times the regulatory gun has forced shipowners to grapple with issues related to emissions of greenhouse gasses, sulfur particulates and nitrogen oxides. Measuring methods are ripe for change- with decades-old methodologies, or high tech guestimates, being used to estimate emissions. Numbers used for regulatory compliance are often surrounded by wide margins of error.

But, the disruptors have been revving up their engines (apologies to Harvard professor Clayton Christensen- who has studied the impacts of disruptive technologies across a wide swath of businesses). In the trade press, we’ve seen a whole raft of articles describing the efforts of engine makers in offering remote monitoring packages from the likes of Wartsila, Kongsberg (building, in essence, “apps” to fit on top of Wartsila engines), ABB, and Man B &W, to name a few. In a previous article, I described how maritime communications behemoth Inmarsat has created communications pipelines that would let the costs of such monitoring to be charged back to “vendors”, ie not mixed in with “crew welfare” and transmission of electronic charts, for example. Under the new, and potentially groundbreaking paradigm, maintenance, and development of time intervals for inspection and replacement of parts, can be done based on continuous observations- all transmitted back to (…this is where it gets interesting…).

What do large shipping companies think about such things? Company social media broadcasts, crafted by marketing mavens and PR flacks, don’t inform here, but “the fine print” does. Over the past year, we’ve seen renewed capital markets activity for shipping; prospectuses offer good visibility into current thinking on monitoring, and the impact of fuel consumption on charter hires (and, ergo, EBITDAs), and on regulatory snoops. Consider the following snippets from recent regulatory filings:

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COMPANY A
Each of our newbuilding vessels will be equipped with a vessel remote monitoring system that will provide data to a central location in order to monitor fuel and lubricant consumption and efficiency on a real-time basis. We expect to retrofit all of our operating vessels and …Vessels with a similar monitoring system. While these monitoring systems are generally available in the shipping industry, we believe that they can be cost-effectively employed only by large-scale shipping operators, such as us.

COMPANY B
Our VLCC newbuildings are based on advanced "eco" design. We expect these newbuildings to incorporate many of the latest technological improvements designed to optimize speed and fuel consumption and reduce emissions, such as more fuel-efficient engines, and propellers and hull forms for decreased water resistance…. Further, the market conditions from time to time may require us to share any fuel efficiency benefits with our charterers and the "eco" ships may not provide us with the same competitive advantage in securing favorable charter arrangements as we might expect.

COMPANY C
The IMO is also considering market-based mechanisms to reduce greenhouse gas emissions from ships, and the European Parliament and Council of Ministers are expected to endorse regulations that would require the monitoring and reporting of greenhouse gas emissions from marine vessels in 2015….The EPA enforces both the CAA and the international standards found in Annex VI of the MARPOL concerning marine diesel engines, their emissions and the sulfur content in marine fuel.

If I were moderating a Capital Link conference, and I had reps from these three listed companies up on the panel, I would lob the following, rapid-fire style, at the presenters:

Who receives the monitoring data? If the company gets it (in addition to the vendor), could investors see it? How about deep pocketed charterers, always in the regulatory line of fire? Could regulators (monitoring emissions) be privy to such data? Could the regulators require Class societies (or engine vendors) to turn over such data to determine compliance? If owners and charterers work out a deal with specified fuel consumptions (usually tied to a matrix of speeds), could the charterers see monitoring data in real time? Where chartering results are specifically tied to “eco”- advantages (ie less fuel = more hire), could investors demand to see monitoring data? What about charterers’ claims that they only charter “efficient” tonnage? What about analysts who evaluate vessel hires and asset values? Sell side analysts and portfolio managers? Pundits and shipping media?

Ideas here are open for discussion and debate- just like at the live events; hopefully some readers will disagree loudly and vehemently, please don’t be shy.