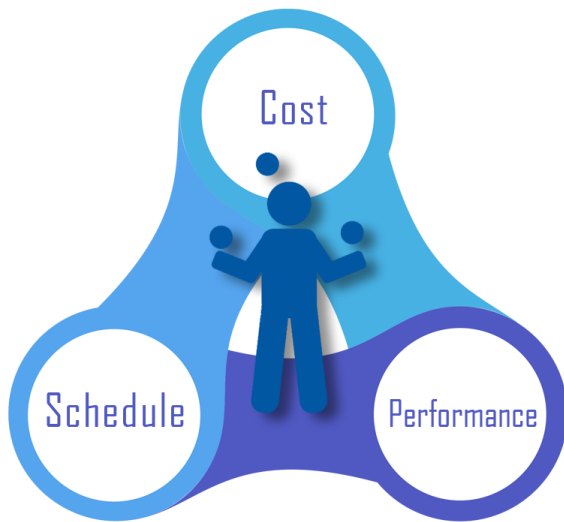


SCHEDULE RELIABILITY



1. Introduction



It is a well-known fact that the globe is shrinking every day for the end consumer due to the development of technology on various fronts. The face of business has changed tremendously in the last two decades due to the abundance of shipping options from every corner of the world. Organizations can now choose countries where it is cost effective to manufacture their products. This has created a situation where companies no longer use production cost as a competitive edge, but focus more on managing a reliable and cost effective supply chain.

Ocean transportation has become a crucial element in organizations day to day delivery to their customers. Due to this, schedule reliability has become a pivotal element in any organizations service delivery. If ocean liners have a low degree of schedule reliability it can result in significant additional cost not only for their customer but also for the shipping lines and significantly undermines their customers' ability to hold a competitive edge within their respective industries.

The paper analyses how shipping lines deal with the trade-offs linked to managing the time factor in liner service design and discusses the range of measures and thinking that container carriers need to deploy to maximize schedule reliability.

2. How does it impact your customer's business?

When shippers and consignees experience a lack of schedule reliability from their carrier they are left with no option but to build additional buffer times into their delivery schedule, resulting in additional costs that are then incurred through additional warehousing and increased inventory costs to name the obvious ones. There are various other knock-on impacts to the clients that experience longer lead times, like the additional costs for air freighting "line stoppers" and not being able to be as responsive to your clients' needs.

In order to understand the impact of an unreliable schedule for the end consumer, the following example will shed some light. Let's assume a vessel is 3 days late from the published schedule and assume the carrier moves approx. 50 000 containers per year with an 80% schedule reliability, means that's approx. 10 000 containers will be 3 days late.

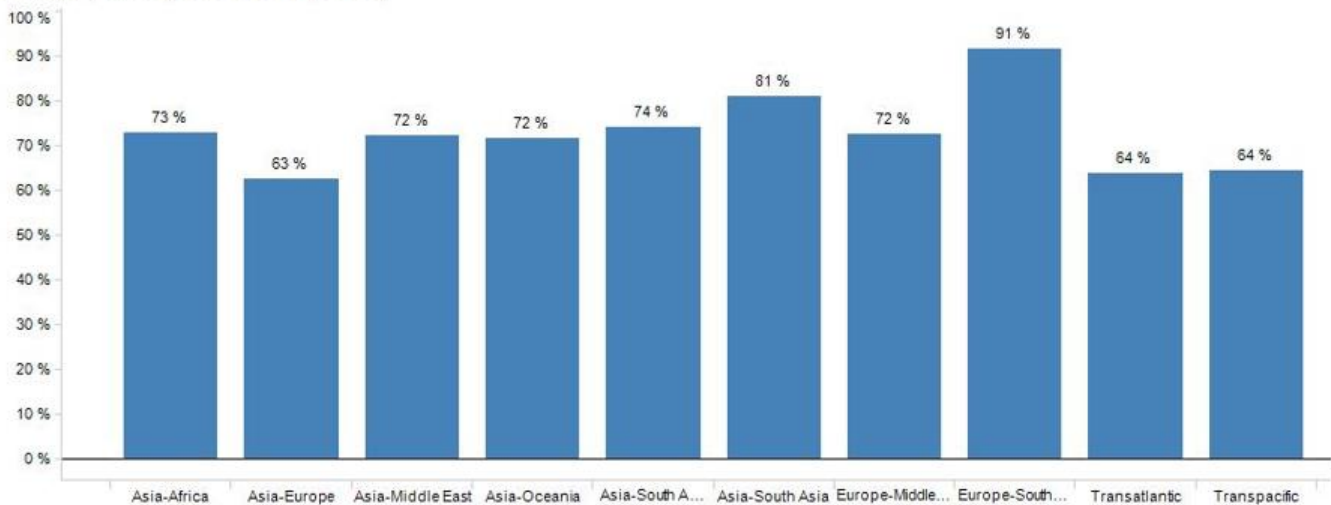
If the shipping line can improve their schedule reliability to 95% means only 2500 containers will be late. Let's also assume that the average cargo value is 40 000 USD per container. That means that if the shipper had to finance his inventory for an additional 3 days at an average interest rate for 5% pa.



Containers	Shedule Realiability Achieved	Impacted Containers	Average Cargo Value	Inventory Finance Cost	Delay cost / day / cont	No Days Delay	Tot Delay Cost/Cont.	Total Annual Cost of Delay
50,000	80%	10,000	\$ 40,000.00	5%	\$ 5.48	3	\$ 16.44	\$ 164,383.56
50,000	95%	2,500	\$ 40,000.00	5%	\$ 5.48	3	\$ 16.44	\$ 41,095.89
50,000	80%	10,000	\$ 40,000.00	5%	\$ 5.48	5	\$ 27.40	\$ 273,972.60
50,000	95%	2,500	\$ 40,000.00	5%	\$ 5.48	5	\$ 27.40	\$ 68,493.15

This is a significant impact and is noted directly on the company's bottom line. Sadly, current research is showing us that the average schedule reliability is nowhere near 80% or 95% as illustrated but according to Drewry - shipping consultant (Refer <http://www.drewry.co.uk>), it is more like 72.6% over these last few months.

Reliability by trade (Feb-2016 to Apr-2016)



3. How does it impact the liner shipping?

It is an undeniable fact that by improving shipping reliability has a massive impact on the end consumer and shipper, but with that said it also impacts the liner business substantially.



Schedule Reliability - It is arriving with the cargo when you said it will arrive where you said it will arrive. In fact, a schedule can slip or move and if the communications are done in time then the impact of a change in schedule can be minimized. It is when there has not been enough lead time warning to a change that all the real problems emerge. When a shipping line has poor schedule reliability, their vessel and equipment utilization decreases as well, resulting in additional costs due to additional direct slot expenses such as bunker burning and vessel costs, overtime costs associated with terminal handlings and other unbudgeted cost and also in additional equipment being required to fill their current shipping requirements.

Example, as previously mentioned, let us look at it from a shipping line perspective that 7500 containers being taken out of circulation for approx. 3 days. This quickly adds up to a massive additional expense not to mention the additional cost incurred and waiting periods that the shipping line are penalized by for not achieving their allocated arrival slot within the port.

When servicing a busy port such as Rotterdam or Singapore, it often means that a shipping line will have to wait for the vessels that have achieved their allocated slot within port, compounding the delays within their schedule and incurring even further additional costs. The challenge for the liner company knows exactly what costs are impacted by deviation from the planned schedule and being able to take key decisions on time to mitigate as many of the additional costs as possible, which are if they wish to remain competitive in the market.

4. What action does shipping line need to take?

It is important that shipping lines are proactive in adjusting their strategies towards schedule reliability in this ever-changing business environment.

It is also important for the liner organization to introduce a solution that can provide them with information that is responsive to threats and opportunities, allowing the shipping lines to make correct decisions in time, when required, to protect their schedule reliability. A system where a shipping line can monitor their performance, allowing them to set targets that can be met and not create unfounded schedule promises. If promises or commitments are not met for whatever reason, it merely creates frustrations throughout the supply chain.



A solution that enables the liner company to understand the impact that a change in schedule planned or unplanned can have on things like;

- Container Terminal Costs
- Reefer monitoring and potential impact on cargo
- Port Terminal Charges
- Storage Costs
- Haulage Costs
- Feeder Costs

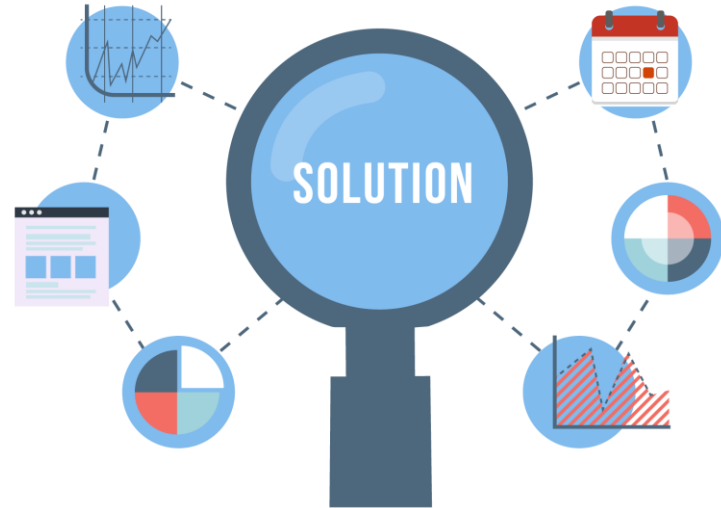
By introducing an effective monitoring system, a shipping line can identify the most effective port rotation, through identifying problem areas or problem ports and reshuffling or avoiding them in future rotations. Decisions of this magnitude obviously have their pros and cons, but with an effective overview a decision can be made correctly based on facts and effectively mitigate problems that put schedule integrity at risk.

There is a very fine balance when make such decisions but the difference between best in class and the rest lies in the access to accurate information that is supported by a proper integrated system as avoiding a certain port can also give your competition the opportunity to develop in a market that could have been controlled by the liner business previously.

The liner business can be improved their turnaround times within port, through having an efficient stowage plan that requires the most optimal loading and discharge plans for each port pair.

5. What to look for in a good solution?

1. One wants a solution that is able to provide quick access to best solution to business questions and make the organization more responsive to threats and opportunities
2. A solution that can from a single integrated source provide timely, meaningful information and trend reports to support key decision making
3. One wants to be able to detect market changes so one should look for User dashboards that support the KPI's for these decisions
4. With the pressures on freight rates and increasing competition in the market it is also essential that for an organization to become alert and responsive it does not require manual data collection and aggregation, but rather with a good report generation capabilities which can reduce manual and repetitive tasks.



6. Conclusion

Managing the time factor in the design and operation of liner services is an important challenge faced by shipping lines. Complex logistics networks have emerged demanding high frequencies, low transit times and high schedule reliability at the lowest possible cost. But at the same time, fast growth in cargo volumes in recent years' have led to port congestion becoming one of the main causes of disruptions in service schedules.

Shipping lines are constantly balancing factors such as the risk of late arrivals and the minimization of scheduled and actual transit times. They deploy a wide array of measures to ensure schedule reliability and transit times as much as possible.