

TPM March 2013: Container Terminal Productivity

Andrew Penfold: Project Director Ocean Shipping Consultants RHDHV

March 2013



Port Productivity – Background Themes

- Why is terminal productivity a key issue?
- How does productivity compare on a regional level?
- How is productivity currently measured?
- How should it be measured?
- A new approach to terminal productivity analysis



Port Productivity – Historical Perspective

Pre Global Financial Crisis:

- Strong year-on-year demand growth;
- Terminals operating usually in a 'sellers market';
- Very wide regional differences in operating systems and turnaround time;
- Pressure on ports/shipping lines to meet demand

Post Global Financial Crisis:

- More uncertain development, localised overcapacity
- Terminals need to be more competitive
- Each stage of the transport chain under financial pressure
- Competitive vessel turnaround time critical



Port Productivity – the driving costs

Container vessel daily costs in port (capital + operating + bunkers):

- ✤ 4500TEU \$33,900
- ✤ 10,800TEU \$58,400
- 12,599TEU \$61,321

Better productivity means lower costs:

E.g. shift from 20 to 30 crane moves per hour for 4700 port moves reduced port time by 33 per cent – for a 12,500TEU vessel this is a saving of +/-\$20,400 (\$1.06m per annum).

As vessel (and consignment) sizes increase these pressure intensify.





Regional Differences in Productivity – traditional measures

The traditional approach to port productivity is based on benchmarking throughput by metre of quay or by crane;



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This offers some value, but does it really reflect the relative productiveness of a port or terminal? We need more than anecdotal evidence. We need independent verification.





Productivity Metrics – current limitations

- There are strong regional differences in productivity Asian terminals tend to be much more productive by all measures, with European terminals and North American facilities much slower.
- There has been an improvement in each region in recent years but the regional gap has actually increased.
- Two main dangers in this approach:
 - Comparing 'like-with-like': terminal volume, transshipment intensity, shift patterns, stage of development, dedicated / common-user, etc. – all influence productivity.
 - Port and region averages disguise wide differences at the terminal level.

In the current market there is a real need to offer independent benchmarking – this should be a key component of marketing and of terminal contracts between lines and stevedores.



The new approach – Proof + Verification

- Empirical approach is the way ahead. Operating data supplied directly by 17 ocean carriers for 400+ ports and 650+ terminals globally:
 - Time ships arrived/departed;
 - Number of container moves during time at terminal;
 - Individual vessel size.
- Benchmarking productivity on a terminal / port / regional / global basis is now possible. Berth productivity by:
 - Ship size;
 - TEU range;
 - call size (# of TEUs).



Port Productivity – rankings 2012 v 2011

- North Asian ports retain top regional ranking again in 2012;
- ISC big winner, while Central America, Mediterranean has dropped.



Source: JOC Port Productivity Database; Ocean Shipping Comult

North American ports have work to do after a ranking fall in 2012 – disappointing after a strong upturn in 2011.

Focus should be on:

- Absolute productivity v other regions
- Relative position v other terminals





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Productivity – Examples of Deliverables

Port productivity at individual ports or by preferred selections can be easily benchmarked – and by size of ship.





- Quarterly data
- Seasonal trends
- Direct comparisons





Case Study - North America

 North American ports are capable of competing effectively regarding productivity.





 But remain untested on larger vessels – how will they cope with coming size uplift? We'll find out soon!





Conclusions

- Demand to benchmark port productivity will only increase;
- Greater accountability required so industry can benefit;
- Ports need help to benchmark operations as a marketing tool;
- Introduction of agreed metrics into terminal agreements;
- US ports face challenge of larger ships already handled at Asian terminals effective benchmarks will monitor progress.

There is a new era of effective port productivity analysis underway – and it is needed. The metrics to provide this analysis are becoming available.





Thankyou

Andrew Penfold Project Director: Ocean Shipping Consultants RHDHV

Andrew.Penfold@rhdhv.com

