



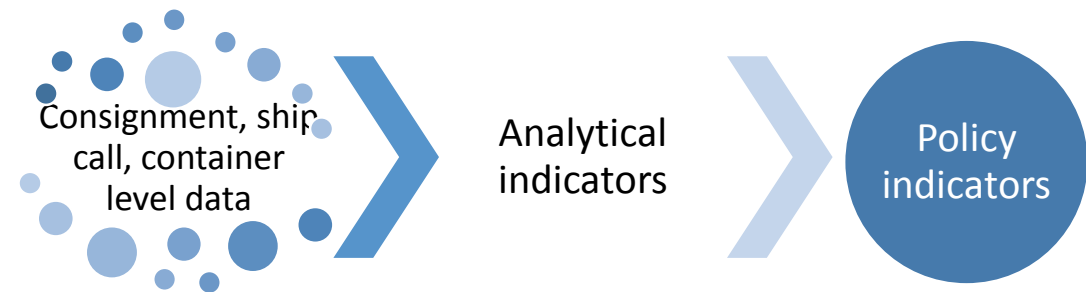
Port Performance Indicators

Outline

- Background for the PPIs program: Framework and pilot ports
- Findings from the assessment on the pilot ports
- Highlights of PPIs
- Recommendation and next steps

The value of Port Performance Indicators (PPIs)

- Information on port activity is scarce, but it is a valuable public good:
 - Ports need information to monitor their own performance
 - Ports need information on competing ports for planning purposes
 - RECs, countries and development partners need information for regional coordination
 - Port users need information to make informed choices.
- PPIs are valuable for ports, policy makers and port users:
 - For ports, PPIs provide business intelligence and allow for monitoring whether strategic objectives are met. PPIs also allow identification of specific bottlenecks through review of performance and choke points for specific trade corridors.
 - At policy level, they provide a dashboard for informing national and regional policy makers on the status of the port industry and the shipping trade.
 - For port users, PPIs help in making informed port selection choices.

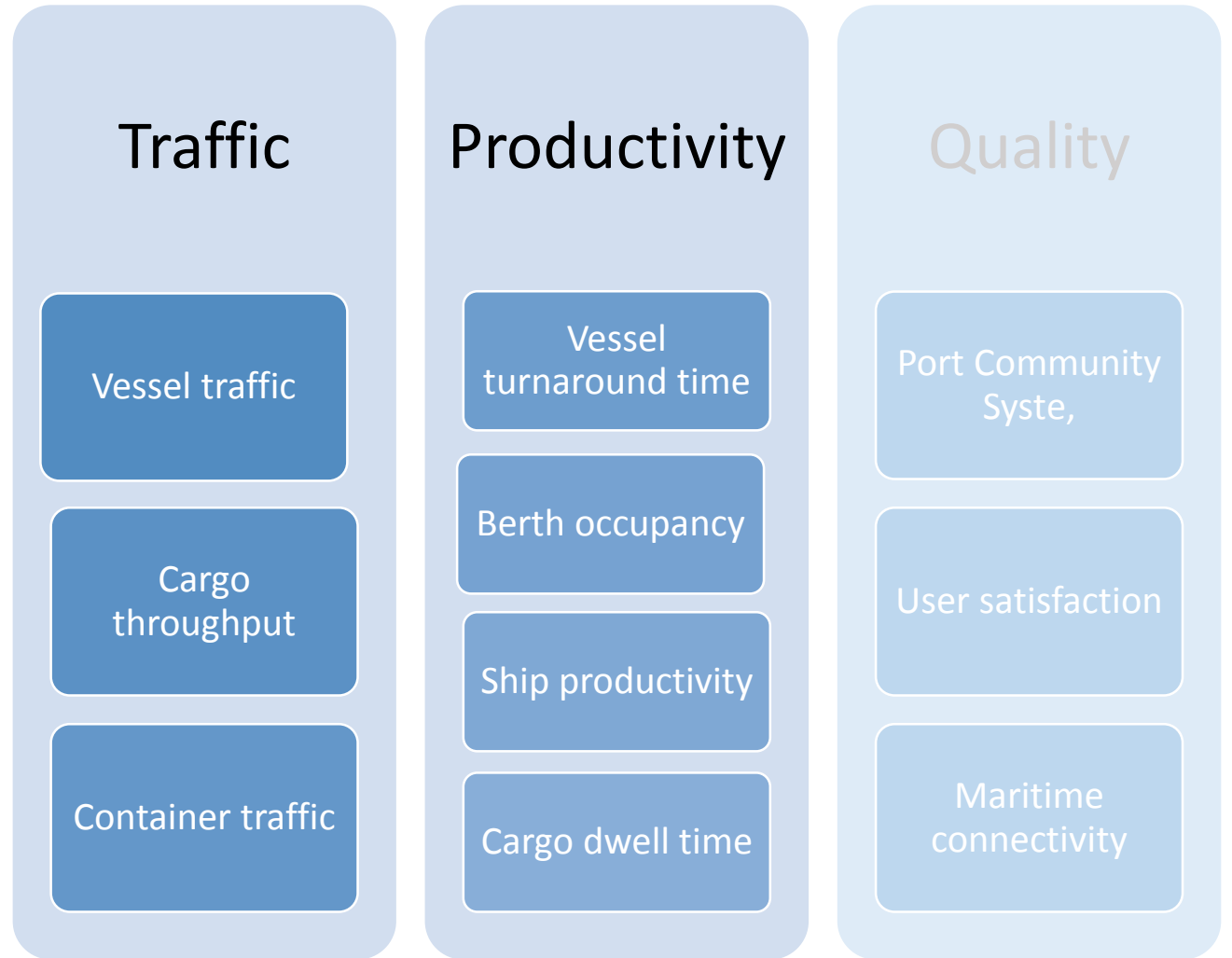


Framework for PPIs

A list of 10 primary indicators grouped under three families were retained, based on global practices and workshops with the two port associations, PMAESA for Eastern and Southern Africa, and PMAWCA for West and Central Africa

The pilot focused only on the first two families:

- Traffic related indicators
- Productivity indicators



Pilot Phase 2016

- The assessment aimed at:
 - Reviewing existing PPIs in ports
 - Reviewing use of PPIs for port management
 - Identifying data sources for PPIs
 - Assessing IT systems readiness to provide disaggregated data enabling calculating PPIs
 - Collecting historical statistics
 - Collecting disaggregated data for 2014 – 2015
- Draft publication on summary of the pilot ports assessments circulated to ports on February 2017

- Ten ports selected by PMAWCA and PMAESA:

- Dakar
- Abidjan
- Tema
- Douala
- Pointe Noire
- Lobito
- Maputo
- Dar es Salaam
- Mombasa
- Djibouti



Findings of the assessment of the
pilot ports

Availability of PPIs: looks good on the surface

	Total Throughput	Container Throughput	Ship TAT	Berth Occupancy	Vessel Traffic	Container dwell time	Container handling productivity
Abidjan	✓	✓	✓	✓	✓	✓	✓
Dakar	✓	✓	✓	✓	✓	✓	✓
Dar Es Salaam	✓	✓	✓	✓	✓	✓	✓
Djibouti	✓	✓	✓	✓	✓	✓	✓
Douala	✓	✓	✓	✓	✓	✓	✓
Lobito	✓	✓	✓		✓		
Maputo	✓	✓	✓	✓	✓		
Pointe Noire	✓	✓	✓	✓	✓	✓	✓
Tema	✓	✓	✓	✓	✓		✓
Mombasa	✓	✓	✓	✓	✓	✓	✓

Findings: limited public availability of PPIs

- Published statistics are aggregated, preventing for instance in several ports:
 - Decomposing transit by type of cargo (containers / other dry cargo / liquid bulk) or even by direction
 - Measuring level of containerization of general cargo
 - Monitoring specific commodities (cotton for instance)
- Definitions differ, so comparing statistics is not straightforward
- Productivity often limited to handling productivity, rarely PPIs on dwell time or ship turnaround time
- Most ports prepare internal statistical reports that are not publicly available, i.e. detailed operational performances and statistics.

Port	Website	PPIs on website
Dakar	www.portdakar.sn	Traffic data
Abidjan	www.portabidjan.ci	Traffic data
Tema	www.ghanaports.gov.gh	Traffic data
Douala	www.portdedouala-cameroun.com	Traffic data
Pointe Noire	www.papn-cg.org	Traffic data
Lobito	www.eplobito.net	Traffic data (latest for 2011)
Maputo	www.portmaputo.com	No data available
Dar es Salaam	www.tanzaniaports.com	Traffic and productivity, latest for 2012
Mombasa	www.kpa.co.ke	Traffic and productivity data
Djibouti	www.portmaputo.com	Traffic data

Ship call data

- Generalization of VTS in ports allows for better recording of vessel movements
- However, often, data is manually transcribed into a different IT system for producing call and berth occupancy indicators

Port	Ship call data
Dakar	Yes through VTS.
Abidjan	Yes through VTS
Tema	Yes, data on ship calls are electronically submitted.
Douala	Vessel manifests electronically submitted to SW, but on paper to PA
Pointe Noire	Yes, online form in software system Cargo
Lobito	Yes, manually in a port authority database, based on papers from shipping agents
Maputo	MPDC captures ship movements based on AIS signals. Ship data are provided to MPDC by the harbor master (a separate organization).
Dar es Salaam	Yes (the precise method is not clear from the assessment).
Mombasa	Yes, submitted in a VTMS. Data is captured manually.
Djibouti	Yes, through Port of Djibouti harbor master, the PA manually captures in database.

Cargo data

- Most port authorities combine ship manifests (electronic or paper) and tally sheets (manual capture) for monitoring cargo movements
- Sometimes, information from third party terminals is challenging or not fully integrated
- Often statistics requires combining various unconnected databases, so requires manual work, which is prone to errors

Port	Cargo movement data
Dakar	Manifest entered into ATLANTIS IT of the port authority
Abidjan	Manual capture of manifest
Tema	The port authority collects cargo movement data about its own terminal operations and reconciles with ship manifests submitted to SW. The terminal operator also provides cargo handling data.
Douala	Cargo manifest data are provided to the Single Window by shipping line / agents by EDI and forwarded to port authority. Container terminal also provides IT data
Pointe Noire	PAPN receives electronic manifest from shipping agents and container data from Congo Terminal IT
Lobito	Manual, based on mix of manifest and tally sheets
Maputo	The cargo manifests obtained through the customs single window. Third party terminal operators also provide cargo handling data on a monthly basis
Dar es Salaam	Manifest received through Customs IT. The container terminal provides data on print out. Additional information captured from tally sheets
Mombasa	The ship manifest electronically sent by shipping lines to KPA IT. Additional manual information from tally sheets
Djibouti	The line/shipping agent submits manifests and lists of loading and unloading to the port authority. The container terminal provides limited cargo movement data.

Findings: in some cases PPI collection difficulties for (container) terminals under concession

- Quality and scope of information depends on the degree of cooperation established between port authority and terminal operator.
- Often no contractual obligation to provide specific PPIs through a specific method (i.e. electronically).

Port	Relation port authority with container TOC
Dakar	Terminal productivity measured by the operator but not structurally shared. Ship performance calculated by PAD using VTS data for calls
Abidjan	Container terminal productivity reports are available in excel format monthly based on obligation, productivity norms are established
Tema	GPHA requests operational data from TOC (contractual obligation seems limited). Data such as dwell time is not provided by TOC on a structural basis. Terminal software (NAVIS) is not EDI linked with GPHA.
Douala	Not clear
Pointe Noire	The terminal sends a monthly statistical bulletin, based on specification in the concession contract, that includes terminal throughput and ship calls per shipping line, waiting time at anchorage, dwell time and equipment status.
Lobito	No concession with third party operator
Maputo	The Landlord (CFM) has granted a master concession to MPHIC without performance clauses/data provision clauses in this contract. MPHIC has sub-concessionaires that provide monthly operational performance data. The container terminal sub-concessionaire does not provide productivity data.
Dar es Salaam	Data is submitted to TPA in hardcopy, and is manually processed by TPA.
Mombasa	No concession with third party operator
Djibouti	Systems are not fully integrated, despite common shareholding

Findings: fragmented port IT

- Many ports have developed IT systems for operations, which provide a basis for productivity analysis
- Port IT differs a lot between ports:
 - Some ports work have fragmented systems
 - Other have integrated systems
- In all ports, projects towards integration are planned or ongoing, but statistics are not the primary motive
- In some cases there are problems with outsourced IT systems due to lacking skills and limited service from software providers.

Port	Port IT	Terminal IT
Dakar	ATLANTIS, tailor made software	Navis
Abidjan	Soget SIP, for PAA, administrative tool with data of vessels calls, cargo traffic (at different terminals), invoicing and statistics.	
Tema	Jade Master Terminal Operation System will go on live end of 2016 and will replace PORTSTAT	Navis
Douala	No integrated IT system	Oscar
Pointe Noire	Cargo (software program)	Oscar
Lobito	Oxygen, problematic relation with software provider limits value of the IT	
Maputo	WMS, focused on weighting the volumes through weighbridges	Zodiac system
Dar es Salaam	HarbourView+ (VTS) and Cargo System	nGen
Mombasa	Various applications	KWATOS
Djibouti	Various applications	Navis

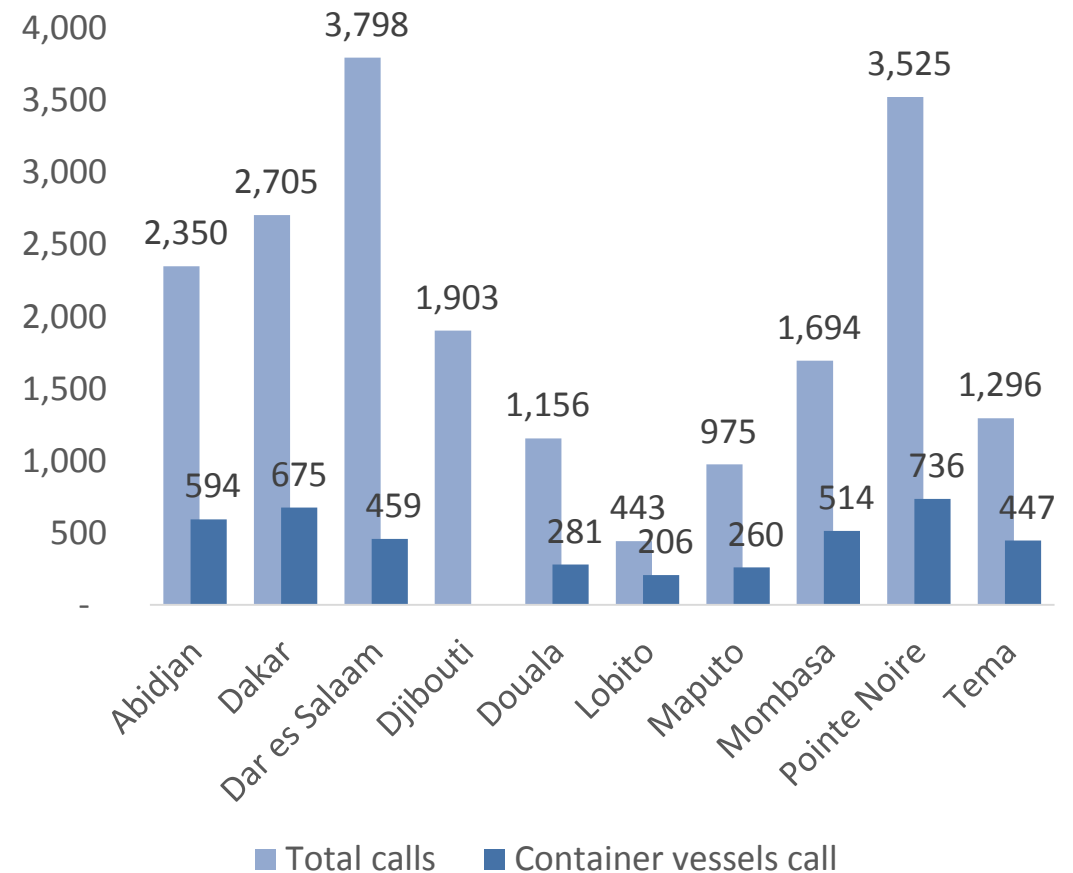
Findings: PPIs are rarely management priority

- The port authorities often do not have a 'performance management culture', especially not when terminal operations are outsourced.
- As a consequence, PPIs are generally not regarded as necessary to develop and monitor corporate/port development strategies.
- This explains the limited attention and resources (both IT and staff) for collecting PPIs.
- This also explains the long period (several months) it takes before data is processed and PPIs are made available
- The overview of PPIs publicly available shows PPIs are not often collected to inform stakeholders.

Highlights of PPIs

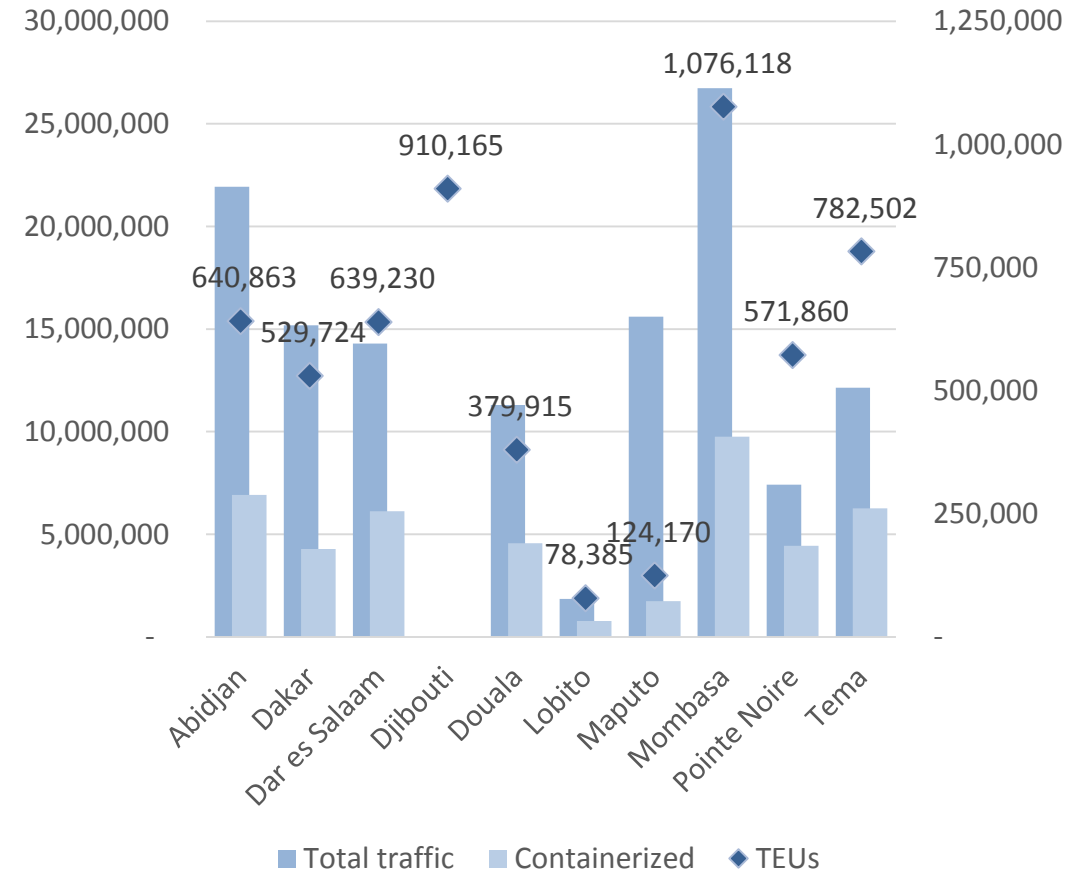
Traffic: vessel calls

- The total number of calls can be ambiguous: in several ports, it can include local traffic (such as dhows in Dar es Salaam), non commercial calls, fishing activities, etc.
- For container calls, ports consider either:
 - Vessels calling at the container terminals
 - But in many ports, containers can be handled outside the terminal (Dar es Salaam, Tema, Dakar, Djibouti)
 - Or vessels classified as containerships
 - But this can also be restrictive (i.e. excluding roro ships carrying containers)



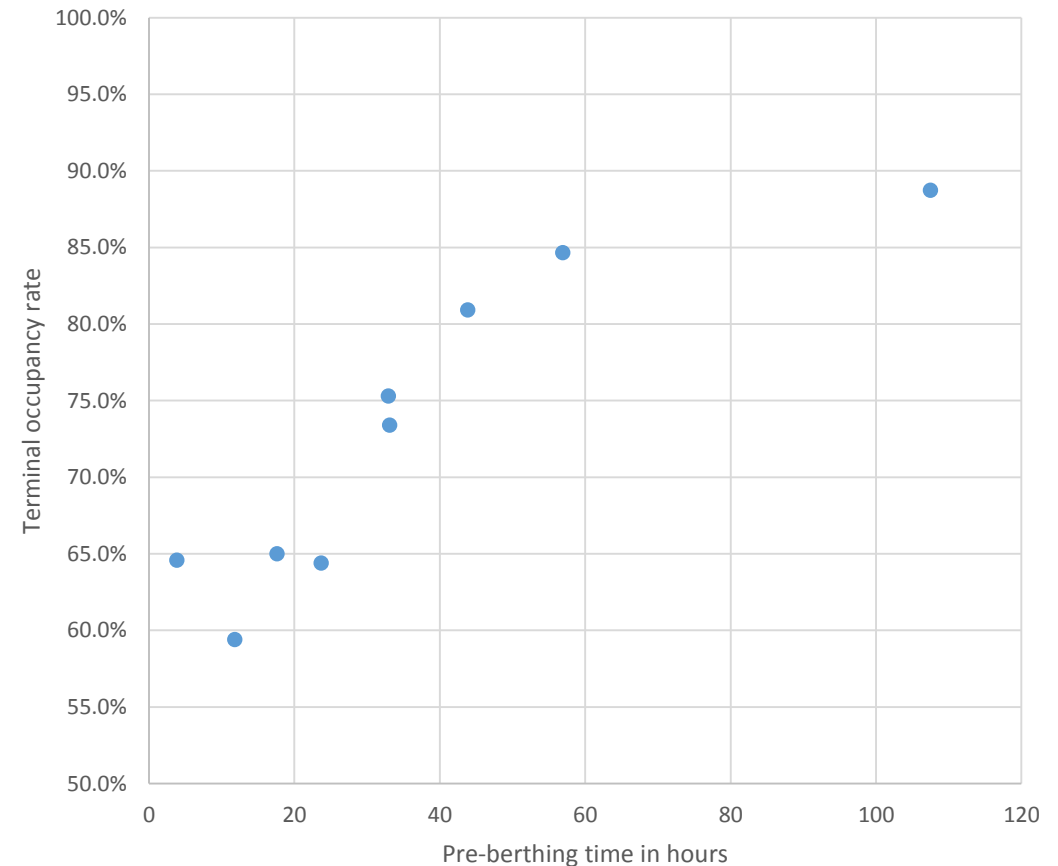
Containerized traffic

- Pointe-Noire, Djibouti and Tema have high proportion of container traffic relative to total traffic, and notably transshipment
- Other ports have a more balanced traffic between liquid bulks, dry bulks and general cargo
- Maputo handles a far higher proportion of bulk, with a proportionally limited container traffic



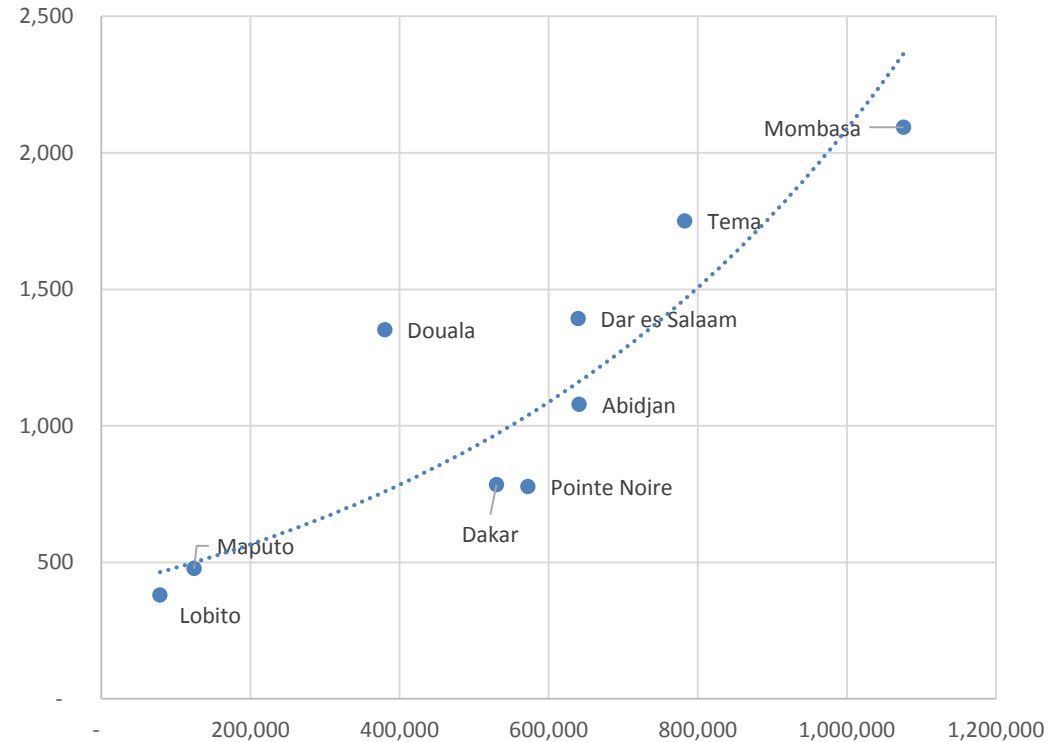
Congestion and berthing delays at container terminals

- Productivity indicators are less frequently monitored
- The most widely available indicator is the berth occupancy, available at berth or terminal level
- When ship turnaround time is available, the combination of the two confirms that pre-berthing delays increase with occupancy rate, despite window berthing schemes

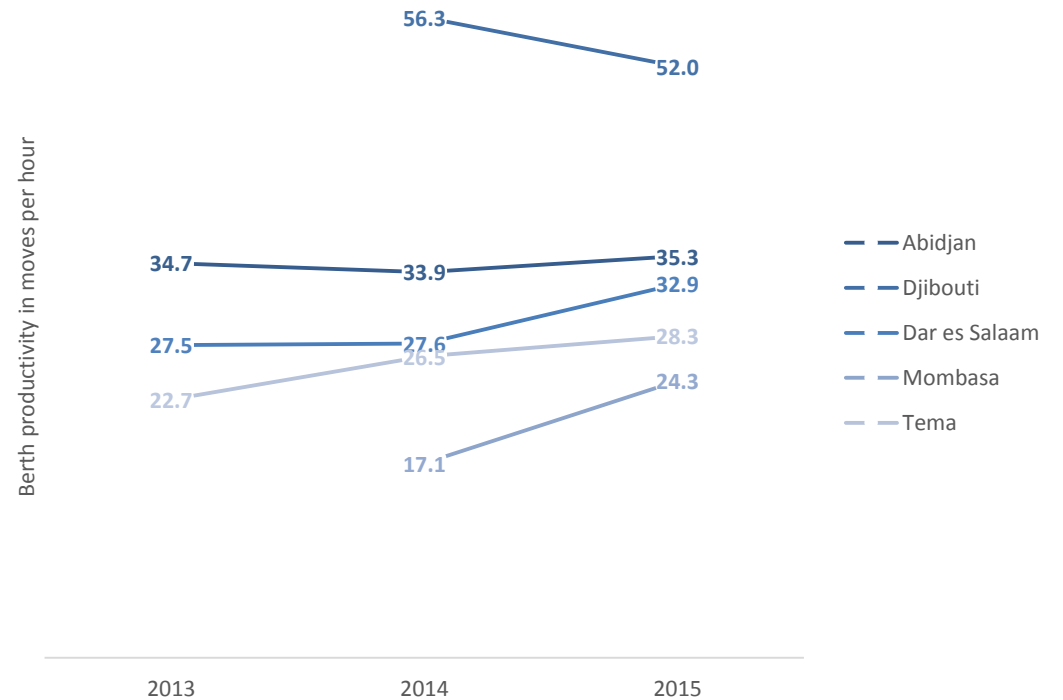


Container and handling productivity

Higher call volumes should be conducive to better performances



But this does not fully show in the actual performances



Recommendations and way
forward

Requested input from associations & ports?

- Short term:

- Facilitate the second round of data collection (Q2 2017) (including Lagos)
- Reflect on set of recommendations:
 - Internal review IT / Corporate planning / marketing dept. to enhance current set of PPIs
 - Integration of data across terminals and functions (within existing IT systems)
 - Improve on dissemination and sharing (port community and wider audience through Internet)
 - Coordination and monitoring mechanisms – port & Associations levels – to ensure collection/production/dissemination
- Inspiration for other ports?

- Longer term:

- Rethink next generation of IT systems for port operations and data integration
- Partner with training organization to deliver the PPIs training
- Sharing PPIs as global public goods:
 - Port community
 - Development partners
 - RECs and regional integration institutions
 - Corridor Management Institutions

Thank you for your attention
Merci

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