# Port industry performance management

Professor Dr. Michaël Dooms, *Solvay Business School, University of Brussels (VUB), Belgium*

Port performance management has been a heated topic both in the industry and academia for the past 20 years, albeit on different levels and in a rather scattered way across performance levels – from the individual terminal operational efficiency, to country level data on maritime connectivity, as well as performance areas (operations, socio-economic, environmental, governance).

On the academic level, port related research has mostly focused on comparisons of port terminal efficiency, using various approaches of which the data envelopment analysis (DEA) technique, although criticised, has been rather prominent. On the port industry level, interest has been relatively low compared to other infrastructure industries, most notably the airport industry where several independent industry performance management initiatives already exist. Examples include the annual ATRS Global Airport Benchmarking Report, led by an academic network supported by individual industry partners, as well as the airport service quality (ASQ) initiative run within the Airports Council International. Most performance indicators developed within these initiatives focus on either operational performance data obtained from network members or perceptions of user service quality gathered through surveys.

## Current state of port industry level performance initiatives

At the terminal level in ports, we do however note the existence of the CTQI initiative by Germanischer Lloyd, and more recently the Journal of Commerce (JOC) port productivity report based on carrier information for specific terminals. On the level of user perceptions of service quality, we note the AAPA Customer Service Initiative implemented for East Coast US ports. At the port level, attention has mainly focused on environmental performance where both the European Seaport Organization (with the ECOPORTS initiative) and IAPH are playing leading roles. Besides these limited initiatives on a terminal and port level, we also refer to several macro-economic oriented studies by supranational institutions (OECD, World Bank, World Economic Forum, UNCTAD) such as country performance indices on various components of infrastructure quality and connectivity.

Currently however, a widely accepted independent data platform, managed by the industry and bringing together the industry's stakeholders, compiling data on various areas of performance, seems absent in the global port industry. One of the key features of such a platform would be to move beyond operational terminal performance, and among others provide benchmarks against industry averages to individual companies, aggregated industry performance figures to industry stakeholders, and linked industry performance to macro-indicators of country performance.

## Industries seek trustworthy data on performance

We also believe that both stakeholder inclusion and stakeholder acceptance might be improved. For example, while CTQI is mainly a terminal led initiative, the JOC data is based on carrier information. Port authorities on their side have been largely sidelined within both initiatives and some have already even found themselves on the defensive end when the JOC rankings were produced, investing costly resources to counter and contextualise their position on the ranking as stakeholders used the information against them. Therefore, we believe in the usefulness of a new complementary initiative that gathers, analyses and integrates data sources on market trends, financial and socio-economic performance, environmental performance, operational performance, user perception of quality and governance quality, including meaningful benchmarking on a regional and global level. In the current state of increasing stakeholder pressure on port activity from governments and local communities, as well as a growing interest of private investment funds in the port industry, a balanced, integrated and objective approach towards the industry's performance could prove an important element in attracting investment to the industry, strengthen its overall 'license to operate' and improve understanding between stakeholders. As an example, container shipping lines have recently been moving in this direction by setting up a stakeholder-based collaboration for data management as they are under increasing pressure from stakeholders, in particular on environmental and security issues. In the absence of integrated performance metrics spanning several perspectives, and providing a context-proof account of performance, severe risks exist that governments, powerful interest groups and investors will revert to self-managed or external sources to the industry to gather ad-hoc data to support their decisions on regulations (governments), project support (local communities and interest groups) or investment funding (investors).

## Challenges for industry level performance management

In the European Union, both the European Commission and the European Seaports Organization (ESPO) have, since 2007, shown interest in setting up a port industry performance management platform in order to increase the knowledge and awareness of port industry performance. After the EC 'Communication on a European Ports Policy', ESPO together with five universities responded to a call for proposal to lay the foundations of a so-called 'European Ports Observatory' in 2009. As a result, the PPRISM project was implemented during 2010-2012 leading to an inventory of indicators, an evaluation of indicators

| OPPORTUNITY FOR PORT INDUSTRY | ALTERNATIVE |
|---|---|
| Keep control over quality and storage of individual and industry data | External parties setting up databases – no control on quality/reliability |
| Create data to improve (1) joint understanding of the industry's challenges (2) climate of government – industry relations | EC performing ad-hoc studies, deepening divide between stakeholders and creating unnecessary and inappropriate regulation |
| Efficient data collection/cost reduction | Repetitive input of identical data in various surveys; data redundancy |
| Confidential data treatment – no inappropriate reporting on individual ports | External stakeholders reporting on individual port performance |
| Provide links between performance domains/meaningful benchmarking and knowledge management (port strategy) | Partial approaches to port performance (no-cross perspective insights – unbalanced view), weak or no link to port strategy |
| Proactive stakeholder management: explain performance in a transparent/objective way | Need for defensive reactions to stakeholders in case of sub-optimal performance |
| Provide standards for performance reporting of which all ports can benefit e.g. sustainability report guidelines and templates, ICT platform | Non-standardised approaches leaving room for stakeholder controversy/others imposing standards |

Figure 1: Opportunities and alternatives for the industry.

by stakeholders, a pilot study and a first European Port Performance Dashboard.

The evaluation of the PPRISM project highlighted a number of challenges if one is to engage in industry performance management. First, substantial trust and understanding between industry stakeholders needs to be built, if data on various performance areas are to be exchanged. Second, transaction costs to gather and manage the data need to be minimised. As a result, adequate ICT investments are required. Third, the platform needs to deliver value for the participating stakeholders (individual data suppliers such as port authorities, but also other stakeholders), in terms of linking the actual performance metrics to best practices and context-related elements, helping individual members of the platform to gain deeper insights into their performance by means of a knowledge management system. To that end, a human and financial resources base needs to be developed to run the platform, as well as an organisational form, which guarantees neutrality towards industry stakeholders and guarantees continuous inclusion and engagement from stakeholders. While well-functioning examples already exist in other industries, a shared vision between port industry stakeholders will need to be developed first on the nature of the organisation (commercial or non-commercial), the legal form and the corporate governance.

## PORTOPIA as a unique opportunity for the industry

Following the insights of PPRISM and the associated challenges discussed previously, the European Commission (EC) decided to provide a seed investment towards the development of a port industry performance platform, through its EU-FP7 research and technological development program, worth €50 billion over the period 2007-2013. Following a competitive call for proposals within one of the last calls of the FP7 programme, the PORTOPIA consortium was selected to address the above challenges and develop a sustainable port industry performance data platform, allowing meaningful benchmarking and knowledge exchange between port industry stakeholders. Furthermore, in line with other European infrastructure industries such as railways or airports, who are already benefitting from research and technological development funding schemes, the project offers the potential to substantiate the research and technological development track for the port industry within the new Horizon 2020 research and innovation program of the EC, which will liberate approximately €80 billion in the period 2014-2020.

The PORTOPIA project started on September 1st 2013 and consists of 12 partners, mixing port industry partners with academic partners and research institutes from nine European countries, all with a proven track record in port performance indicator development. More than 10 associated partners, covering both interest groups of port customers, service providers and other stakeholders, will share their expertise and data with the consortium. Over a four-year period, existing data sources will be integrated and a user-friendly interface for data collection and management will be built. The formal launch of the organisation is planned for September 2015. Inclusion in the EU-FP7 program guarantees both an independent development set apart from policy-making process influences, with strong industrial involvement as both ESPO and a leading ICT provider invest substantial resources in the platform's development – approximately 70 percent of the total project resources are refunded by the EC. As such, PORTOPIA represents a unique set-up in a European transnational context, with a clear vision to expand its horizons beyond Europe and ultimately to create a more global exchange platform on port performance.

## About the author

Professor Dr. Michaël Dooms is affiliated as tenured assistant professor with the Solvay Business School at the University of Brussels (VUB). He is programme director of the MSc in Management and teaches management courses in international programmes at the Institute of Transport and Maritime Management (ITMMA) in Antwerp as well as the Erasmus University Rotterdam. He is a member of PortEconomics and a member of the Port Performance Research Network (PPRN), where he co-animates the port authority strategy group. His other research interests are in the fields of complex project evaluation in the infrastructure sector, international business and corporate strategy. Currently he acts as the coordinator of the PORTOPIA project, involving public and private sector stakeholders, with the aim to develop a port industry performance toolkit.

## About the organisation

PortEconomics www.porteconomics.eu

PortEconomics is a web-based initiative aiming at generating and disseminating knowledge about seaports. It is developed and empowered by the members of the PortEconomics group, who are actively involved in academic and contract research in port economics, management, and policy. Since October 2012, Port Technology International and PortEconomics have been engaged in a partnership.

## Enquiries

Professor Dr. Michaël Dooms,
PORTOPIA project coordinator
Website: www.portopia.eu