



Visibility and verifiability in port governance transparency: exploring stakeholder expectations

Mary R. Brooks¹ · Geraldine Knatz² · Athanasios A. Pallis³ · Gordon Wilmsmeier⁴

Received: 2 June 2021 / Accepted: 21 September 2021 / Published online: 4 October 2021
© World Maritime University 2021

Abstract

Transparency remains an under-analyzed topic in port research, and previous research has shown that port decision-making and governance reporting are inconsistent across countries. While transparency might be imposed through legislation or voluntarily adopted, effective transparency also includes (a) an organization's willingness to consistently communicate and make transparent information available to internal or external stakeholders and (b) the stakeholder's expectations on the visibility and verifiability of information. This paper focuses primarily on the second of these, extending an earlier study that explored the availability of information accessible to the public and port stakeholders through a port's most public face—its website (Brooks et al. 2020). This research examines a subset of 27 governance variables from Brooks et al. (2020), who explored 59 separate items to identify transparency practices by ports, revealing uneven levels of port transparency. The scope is to identify what different port stakeholders expect to be visible and readily available in terms of board meeting openness, board director conflict of interest, board provided information, and board reports/publications. Stakeholders also provided their perceptions of how trustworthy board reporting was perceived. The data set includes 134 usable responses from 38 countries and this paper analyzes similarities and differences across stakeholders and countries. The responses from the survey are also considered in the light of the results from Brooks et al. (2020) and the extent that ports currently make these variables visible and available. The study concludes by discussing a further research agenda towards a more transparent and thus better port industry.

Keywords Port transparency · Port governance · Port policy · Port decision-making · Port communications

✉ Athanasios A. Pallis
apallis@uoa.gr

Extended author information available on the last page of the article

1 Introduction

Transparency in the governance of economic activities and port activities has emerged as a common expectation, as it is seen as a moral and political imperative related to goals such as accountability, inclusivity, legitimacy, justification, good governance, and socially responsible outcomes. It is also linked with the improved performance of the port industry.

Thus, ports are exposed to the expectations of greater transparency. Transparency remains a remarkably under-analyzed notion in port studies internationally. Over the last three decades, many governments globally have reformed port governance from central government management to more autonomous ports (see contributions in Brooks and Cullinane 2007; Brooks et al. 2017), but their governance practices do not necessarily reflect twenty-first century public expectations for transparency. Thus, the knowledge on relevant transparency practices applied in port governance is limited.

Brooks et al. (2020) explored the availability of port information to the public and port stakeholders through a port's most public face—its website. That study searched for 59 separate items to identify existing transparency practices by ports in three macro-regions (North America, Europe, and Latin America and the Caribbean) and set a baseline against which future research might be developed. The study revealed uneven (varying in quantity and quality) levels of port transparency and the need for further improvements in that transparency; furthermore, within each region, transparency levels in decision-making governance, the reporting of these decisions, and the consequent port activities were also found to be inconsistent. Reporting on relations with stakeholders and public consultations were irregular. There were no standards of practice obvious, leading to the conclusion that more work needed to be undertaken. The study proposed a research agenda that included a further detailed examination of the governance items, the subject of this research paper.

A public port is defined as any port where there is an element of public ownership that requires stewardship, in addition to those ports where publicly owned assets are managed by a public entity. This definition includes corporatized ports where the public assets may be the land, but the management is by a non-profit or shared capital corporation with some level of public ownership. Brooks et al. (2020) proposed a set of indicators for port transparency in public ports that are consistent with the overarching need for information that is useful, relevant, accessible, timely, and accurate/complete in reporting. However, Brooks et al. (2020) did not validate that those indicators were consistent with the various types of stakeholders' expectations. Countries might have legislation mandating minimal requirements but these may not be consistent across countries. However, given that ports are serving a global shipping and logistics industry, there are some general indicators of port transparency that can be compared across countries.

Brooks et al. (2020) concluded that.

...expectations of various groups of port stakeholders could be identified, and a study conducted on the importance different stakeholder groups place on them and how they rate the performance of various ports on those indicators.

For example, if a port is mandated to provide specific, differentiated data to its stakeholders, is that the data stakeholders want? Sometimes it becomes apparent that what is reported is not relevant to interested parties.

Therefore, this research advances existing literature by validating and evaluating the minimum expectations of stakeholders on specific transparency indicators with the goal of defining a baseline set of indicators for port managers and regulators that are relevant to meeting their accountability obligations.

The concept of transparency is reviewed with emphasis on applications in port governance (Sect. 2) leading to a definition of port governance transparency (Sect. 3). Following an explanation of the methodology (Sect. 4), and the presentation of the research findings (Sect. 5), is a summary of the contributions of this research. Reflecting on the findings, future research on the theme of port governance transparency is suggested (Sect. 6).

2 What is transparency?

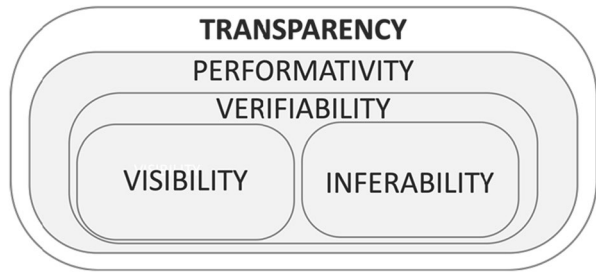
Transparency is defined as “seeing through” or making visible. It is the principle of enabling stakeholders to gain information about the operations and structures of a given entity, which is often considered synonymous with openness, disclosure, and trustworthiness. Conceptually, transparency is also one dimension of Corporate Social Responsibility that encompasses voluntariness; ethical behavior; economic development; quality of life; human rights; labor rights; protection of environment; fight against corruption; transparency; and accountability.

However, transparency in itself is a multidimensional construct. Prior research has linked transparency with openness/disclosure (cf. Finel and Lord 1999; Heald 2006; Hood 2006) and trustworthiness of business organizations (Valentinov et al. 2019; Hultman and Axelsson 2007; Schnackenberg and Tomlinson 2016). Information disclosure, publication, and communication protocols are all relevant aspects public agencies must consider continuously as the public’s expectations for access to information evolve over time. For example, print news media, long a standard for communicating about public meetings, may today only reach a small portion of a port’s stakeholders.

While the term is widely used, the parameters of transparency are often vague, opaque, and volatile (Williams 2005; Michener and Bersch 2013; Albu and Flyverboom 2019). This is because nested in this transparency concept are multiple dimensions that need to be considered to determine if the existing levels of transparency facilitate improvement in the governance, and ultimately the performance, of a given entity (Fig. 1).

The first dimension is the visibility of information, i.e., the degree to which information is complete and found with relative ease. Public information is not automatically visible information. Visibility requires the existence of specific information and the ease of locating it. The first refers to voluntarily or obligatorily rendered visible information, while the second describes the possibility that information can be requested through a specific process. Consequently, public information only

Fig. 1 Nested dimensions of transparency. Source: Authors



becomes transparent if it is made visible, but not by being kept in a repository or by simply being defined as “public” through a freedom of information (FOI) act or law. This last point is important because many organizations hide key reports that should be visible but require FOI action to make them visible. Beyond the matter of accessibility itself, a characteristic of transparency is a greater degree of completeness of information. By way of example, a summarized unaudited financial report makes the financial results of a port visible but does not reveal a complete picture, and without the auditor’s opinion it may not be considered verifiable, the third element of transparency.

The second, innermost dimension of transparency, as proposed by Michener and Bersch (2013), is inferability, which refers to the quality of the disclosed information and/or data, and the extent to which the information, in its form and content, can be used to draw accurate conclusions.

Combined, these two interdependent dimensions, visibility and inferability, create the basic foundation of transparency. The expectation is that the information provided by an organization is not just visible but also valid and truthful. Inferable information can be used to draw an accurate interpretation, both about visible information and information we do not know. Inferability increases with the disaggregation, verification, and simplification of disclosed data/information.

While the qualities of visibility are intrinsic to the information, inferability depends on the receptive capacity of the intended audience (Michener and Bersch 2013). Simplification of data, thus, needs to be adequate, as does differentiation between indirect transparency (transparency understood by experts) and direct transparency, which reaches the wider public. Expecting information to speak to every stakeholder is idealistic. Generalizing information might result in less transparency as it limits accuracy.

The third dimension is verifiability. Not all information that is visible is verifiable or even intelligible. The greatest verifiability is when third-party independent auditors examine the published data and reports and render an expert opinion on their quality and validity, as in the cases of audited financial statements using Generally Accepted Accounting Principles.

The fourth dimension is performativity, defined as the extent that transparency enactment (i.e., acts of making things visible) stands as a process with both intended and unintended dynamics that induce (social) action, such as agreements, conflicts, tensions, and negotiations, and lead to the improvement of management in

organizational settings. Just because information is visible, does not reveal whether the information is useful. The latter can be analyzed in the context of the performativity dimension related to why and how information is supplied to stakeholders.

Levels of transparency might be imposed or voluntary. The former refers to regulation and legislation requirements on disclosure. The latter refers to voluntary initiatives, practices, and strategies of the organization. Over the last several years, more and more countries and regional governments have endorsed rules requiring minimum amount of transparency in governing economic activities. One example is the US “sunshine laws” that aim to ensure certain government activities are conducted in an open and ethical nature, and they apply to both federal and state government agencies and/or to business activities where the public domain retains a key role. These regulations require openness in decision-making meetings, records, votes, deliberations, and other official actions available for public observation, participation, and/or inspection, as well as government meetings to be held with sufficient advance notice and at times and places that are convenient and accessible to the public, with exceptions for emergency meetings. However, several countries have yet to endorse and enforce relevant regulatory obligations and, as a result, both the practices of government agencies and businesses develop in an ad hoc basis. Overall, an increasing number of countries are adopting open government reforms (in Latin America, only Venezuela and Costa Rica have not legislated on access to information); yet, there remains wide variation in openness across countries, with political, administrative, historical, and civic factors explaining this variation as well as the disparity in implementation.

A challenge that becomes apparent when analyzing transparency is that the notion of transparency can be reduced to a “catch-phrase,” ignoring the complexity of the four interdependent nested dimensions.

3 Developing a port governance transparency construct

The issue of transparency in port governance has been addressed by studies examining disclosed information of Port Authority (PA) communications (Parola et al. 2013; Notteboom et al. 2015). Port transparency has been addressed more directly as part of studies assessing national port governance models, e.g., Canada (Brooks 2017) and the USA (Knatz 2017). The latter research addresses action taken by the Texas legislature due to finding a lack of transparency at the Port of Houston as part of a “fixing the governance” exercise (Maciag 2017).

While transparency has been mentioned to be of relevance for the competitiveness of a port system (Ubbels 2005; Verhoeven and Vanoutrive 2012), only Brooks and Pallis (2012) analyze specific good corporate governance practices in more detail by looking into the existence and structure of “Boards of Directors” (BoD) in ports. Recently, Geerts et al. (2021) studied sustainability reporting by Port Managing Bodies (PMBs), integrating into the discussion the transparency dimension, advocating that the openness of communication by PMBs is not linked only with achieving environmental objectives but is also part of a process enhancing an

organization's accountability (on the links of environmental reporting and transparency, see also Hahn et al. (2015)).

The levels of transparency of any entity like a Port Authority (PA) or PMB—whether public, private, or a hybrid one at the intersection of private and public—are frequently imposed by national legislation and regulations, which in turn are subject to the cultural dynamics of the political economy within which they are embedded. The port sector is considered vital to developing an economy and is the object of investments and financial commitments, both public and private. Due to the latter, transparency related to the governance, funding, and financing of transport infrastructure has been seen as important by both scholars (O'Brien et al. 2019), and government initiatives examining corruption worldwide (Transparency International 2021). However, neither the relationship between transparency and the current institutional setting nor the role of past decisions (path dependency) might be linear; PAs' routines might demonstrate essential flexibility (Notteboom et al. 2013) to recombine and convert or reinterpret their institutional setting for their own objectives.

Transparency in ports is generally associated with information flows, formal disclosure policies, publication approaches, and discussions and meetings with a variety of stakeholders. Communication protocols are also relevant; for example, has the port kept pace with newer ways to communicate, like websites and social media? Identifying which port activities, reports, and publication approaches are most important to various stakeholder groups, in other words “Transparency for whom?”. The “for whom” is key to decision-making transparency, whether the model is a private or corporatized port or a public port. In the case of a neither fully private nor fully public port, the governance model must balance the diverse expectations of shareholders (or government) and other stakeholders. In Fig. 2, the various port stakeholders are represented, and the governance model will determine if information is merely intended to inform or if it serves to inform and engage.

The challenge is that “hybrid” models (those that feature selected elements of both public and private models) are frequent in port governance, and in these models, the reporting structure may not be clear, as the role of shareholder (private) or citizen/taxpayer (public) may not be adequately articulated in the governing

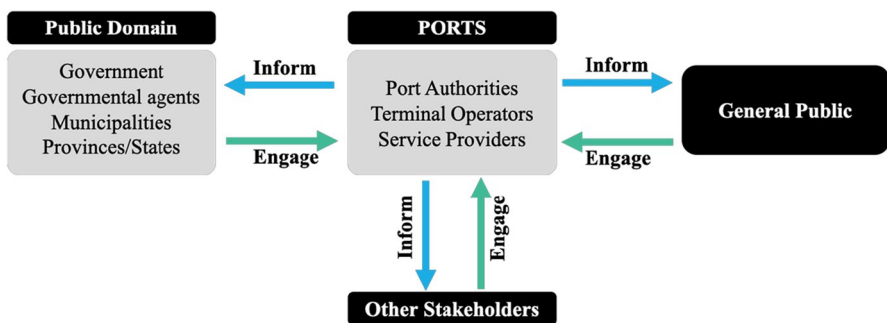


Fig. 2 Transparency for whom? Source: Authors

legislation, regulations, or by-laws. Consequently, more than publication and disclosure of information is required. Furthermore, beyond possibly existing national and local regulations, the levels of transparency in its various dimensions will be influenced and vary according to the expectations of multiple stakeholders.

In this vein, Brooks et al. (2020) adopted the four dimensions of port and their interdependence to the port sector:

- Visibility—can the information be found on the port’s website?
- Inferability—can the public use the information to draw conclusions?
- Verifiability—is the quality of the information such that the public can understand how the port is operating and making decisions? Does an independent third party confirm the information as accurate?
- Performativity—does the information results in action by the public that can effect change in the public port?

This research first focuses on visibility and subsequently on the other dimensions dependent on that visibility. In this context, a question emerges: what makes information verifiable? Clearly, it first must be visible, complete, and easy to find. The criterion used is the ease of finding the information on a port’s website within a reasonable amount of time (Eijffinger and Geraats 2006; Wehmeier and Raaz 2012; Berglund 2014; and Fenster 2015). Public information, a term often used by government, is not the same as visible. Information may be publicly available, but the public may not even know of its existence or where or how to find it. Governments practice both active and passive forms of transparency (Michener and Bersch 2013). Active transparency means the government agencies willingly make the information visible. Passive transparency refers to material available to the public upon request, often through freedom of information (FOI) laws, which necessitate a member of the public taking actions to request and, in some cases, demand access. Accessibility does not equate to transparency. Verifiability requires full completeness of reports; without the complete information and any underlying data, the public’s ability to draw reasoned conclusions is limited (Bernstein 2012; Schnackenberg and Tomlinson 2016). The potential for inaccuracy increases as information is summarized or generalized, thereby reducing transparency.

4 Methodology

Using the results of a globally circulated survey, this paper examines the expectations of six types of stakeholders (listed in Table 1) to a set of 27 governance variables drawn from the work of Brooks et al. (2020). The data collection began on 25 October and ended on 18 December 2020, and the survey used Qualtrix survey capabilities. The survey was managed by porteconomics.eu, which provides global coverage of port issues, and is a freely accessible website. Surveys could be completed by only one person at a particular IP address and were anonymous. The survey was available in English, Spanish, and French, which limited responses from other parts of the world.

Table 1 Respondents by region

Role/Region (1)	Europe	North America	RoW	Grand total
Total	54	45	35	134
A port manager, officer, and/or director	7	11	8	26
Employed by a regulatory authority	6	2	5	13
A port user (cargo owner, shipping line, trucking company, or the like)	3	8	2	13
A port services supplier (towage, pilotage, etc.)	2	2	-	4
A scholar or researcher	28	16	19	69
A citizen or taxpayer interested in ports in my country	8	6	1	15

(1) North America = Canada + USA and RoW = rest of the world (minus Europe and North America).⁷

A one-way analysis of variance (ANOVA) enables the testing for statistically significant differences between the views expressed by each of the three regional groups of respondents. i.e., those based in Europe, North America, and the Rest of the World (all others not including North America and Europe), respectively. For the data elaboration with the one-way ANOVA results, we used the Statistical Package for the Social Sciences (SPSS v.21). When ANOVA testing returns a statistically significant *F*-value with a 95 percent confidence interval ($p < 0.05$), the group means are statistically significantly different from each other.

A suitable method for verifying the findings is the Kruskal–Wallis one-way ANOVA. The dependent variable is measured at the ordinal or continuous level (Likert scale). The independent variable consists of two or more independent groups (three groups). This research uses the one-way ANOVA and Kruskal–Wallis tests to assess the regional differences. Using the ANOVA and Kruskal–Wallis tests, the findings also explore differences by stakeholder type.

The findings are presented in conjunction with related results of Brooks et al. (2020), particularly information provided to the general public and port stakeholders through the port's most public face—its website in the case of 40 ports in North America, 26 in Europe, and 21 in South and Central America and the Caribbean (LAC). This allows comparing the identified stakeholders' expectations and trust assigned to certain governance variables to the extent that ports currently make these variables visible and available.

5 Research findings

There were 134 usable responses, and these are profiled by role in Table 1. They are also grouped into three different regional groupings; for the analysis, RoW or rest of the world includes all respondents outside of North America and Europe. This structure allows for a comparison to identify stakeholders' transparency priorities and answers two research questions: (1) Do findings differ by geographical region? (2) Are there differences by stakeholder type? The number of responses means that

profiling region by role is not possible, but conclusions can be drawn if the data show regional significance or role significance.

5.1 Openness of decision-making meetings

Table 2 presents the assessment of seven items having the potential to reveal expectations of decision-making meeting openness (i.e., Annual meeting or Board of Directors (BoD) meetings). Each respondent chose the level of importance they placed on the item, on a sliding scale of 1 to 10, with 10 being most important. The answer on each item was independent of other answers. The second to fifth columns in Table 2 are the mean for each item for the region. Columns six to eight indicate the regional differences in mean.

For all respondents, prior notice of the meeting and an agenda available in advance are seen as most important. However, when the means for each region are examined, North Americans generally appear to use the higher end of the scale across the board. It appears that North Americans place more importance on the prior notice, agenda in advance, and openness of meetings to public, while Europeans appear to place more importance on prior notice and the publication of minutes. A closer look reveals very little difference between Europeans and RoW.

Moving to the ANOVA results (Table 3), on two of the seven items (*agenda is publicly available in advance* and *the minutes of the meeting are published*), there are no statistically significant differences between respondents by region. However, the differences of the assigned importance on the other five items are statistically significant and are presented in decreasing p value (significance) order. Overall, if ports want to be transparent, higher priority should be placed on the common elements (agenda and minutes) and the highest rated of the five that are regionally different.

The one-way ANOVA results indicate an overall statistically significant difference between groups of respondents but it does not indicate which of the three groups are experiencing a difference. To identify the groups for which a statistically significant difference exists on the analysis of the elements describing the openness of the board decision-making meeting, non-parametric analysis of independent samples (i.e., the three regional groups of respondents) must be applied, allowing all pairwise comparisons. Therefore, Table 3 also shows the outcomes of the Kruskal–Wallis non-parametric test. Beyond verifying the ANOVA results, as the parameters showing a statistically significant difference between the groups are the same in both analyses, the non-parametric test also unveils the pairs of groups with significant differences in the evaluation of the parameters.

A distinctive North American perspective is identifiable, especially when comparing it with the European one; the approaches of these two groups are statistically different in five of the seven examined variables. In three cases, the North American perspective is different from the RoW. European perspectives do not differ significantly from those of the rest of the world, with one exemption, the importance assigned to the potential of the meeting to be attended by invited participants.

Table 2 Importance of openness of decision-making meetings ($n = 134$)

Parameters	Regional means						Pairwise differences				
	Total		Europe		North America		RoW		EU and NA	EU and RoW	NA and RoW
	Mean	St. dev	Mean	St. dev	Mean	St. dev	Mean	St. dev			
Prior notice of the meeting is given	8.10	2.756	7.30	3.142	9.20	2.667	7.94	1.896	1.90	0.64	1.26
Agenda is publicly available in advance	7.93	3.056	7.63	3.229	8.56	3.283	7.60	2.599	0.93	0.03	0.96
Minutes of the meeting are published	7.76	3.179	7.63	3.126	8.07	2.819	7.57	2.728	0.44	0.06	0.50
The meeting is available via webcast	6.46	3.444	5.78	3.548	7.98	3.616	5.57	2.662	2.20	0.21	2.41
A list of meeting attendees is published	6.45	3.500	7.24	3.168	5.24	3.549	6.77	3.570	2.00	0.47	1.53
The meeting is open to the public	6.32	3.378	5.30	3.289	8.47	3.440	5.14	2.297	3.17	0.16	3.33
The meeting is open to selected people by invitation only	4.69	3.607	6.04	3.003	2.36	3.565	5.63	3.201	3.68	0.41	3.27

EU, Europe; *NA*, North America; *RoW*, rest of the world (minus Europe and North America).

Table 3 *F*-values of different factors through ANOVA and results of the Kruskal–Wallis non-parametric test

Parameters	ANOVA		Kruskal–Wallis	
	<i>F</i> -values	<i>p</i>	Pairs of groups with significantly different perspectives	Adjusted significance
The meeting is open to the public	16.988	0.000	RoW – NA EU – NA	0.000 0.000
The meeting is open to selected people by invitation only	18.062	0.000	NA – EU RoW – EU	0.030 0.040
The meeting is available via webcast	7.211	0.001	RoW – NA EU – NA	0.006 0.003
Prior notice of the meeting is given	6.419	0.002	EU – NA RoW – NA	0.000 0.039
A list of meeting attendees is published	4.411	0.014	NA – EU	0.029

EU, Europe; *NA*, North America; *RoW*, rest of the world not including EU and NA.

The openness of the decision meetings to the public is more important for North Americans than for ports and stakeholders in Europe or the rest of world. This variation is reflected in the present openness of the decision-making meetings held by port managing entities. Searching the websites of 87 ports, Brooks et al. (2020) identified that the Annual and/or Board of Directors meetings (depending on national traditions) are open to the public in 80% of North American ports. This percentage was limited to only 4% in European ports and 10% in Latin America and the Caribbean ports (LAC). Prior notice of the meetings to be held and the publication of the agenda in advance are the two most important parameters of decision-making openness, followed by the publication of the meeting minutes. While there is a “global” agreement on the importance of publishing the meetings of the meeting, Brooks et al. (2020) identified that one might reach these minutes following such meetings in most North American ports but can do so remarkably less frequently in LAC ports and very rarely following such meeting held in European ports. Regional variations exist as regards the other parameters as well. Prior notice of the meetings is given in four out of 10 ports. The agenda is publicly available in advance in three out of four ports, mainly due to the tradition regarding the decision-making meetings in North America.

5.2 Visibility of potential conflicts of interest

In many countries, governments want to ensure that the public has confidence that decision-makers have no conflicts of interest. Therefore, there is a requirement to report salaries and/or other activities and relationships that may influence decision outcomes. It is important for publicly listed companies at a number of stock exchanges to report director’s salaries, compensation, benefits, and expenses, along with their appointments to other boards. For public ports, practices vary. It

is common in many countries to report port directors' individual salaries. If they are appointed to their position by a nomination or election process; the identity of their nominators or constituents is also reported. The questions are what else is expected by stakeholders, and what should the best practice reporting be?

Brooks et al. (2020) identified seven governance items related to making potential conflicts of interest visible to stakeholders, and these are presented in Table 4 (column 1). Each respondent chose a level of importance on a sliding scale of 1 to 10, with 10 being most important. The answer on each item was independent of other answers. The columns present the mean for each region with the frequency found to be visible in the ports surveyed in Brooks et al. (2020).

In contrast to the statistically significant differences in expectations of openness of decision-making meetings by region, the ANOVA analysis on the conflict of interest governance item results revealed no statistically significant differences between the three groups of respondents for any of the seven items. The Kruskal–Wallis non-parametric tests confirmed these findings and did not change the ANOVA outcomes. This means that there is a common perspective by all respondents as to how they may identify board member conflicts, with the means of providing guidance on the expectations of all stakeholders.

Exploring Table 4 in greater detail, it becomes quite clear that respondents place the greatest importance on four items: the provision of board member biographies, specification of the organizations that board members represent, the reporting of individual executive salaries, and the identification of board committees and the membership of each. However, Brooks et al. (2020) assessment of visibility of these parameters on port websites and annual reports does not reflect what stakeholders are looking for when assessing board member potential conflicts of interest. For example, the ports of Latin American and the Caribbean did not offer much transparency except for reporting salaries. On the other hand, North American ports provided much more information on the board members themselves, with 73% of North American ports providing visibility here but doing much less well on the other three items of importance. As for the European ports, the best visibility on the four items was for the organizations represented by board members, but only 58% of ports in Brooks et al. (2020) provided this information, and even less visible for the other three of the most important elements. Ports can do better in ensuring visibility on potential conflicts of interest, and these findings confirm that the four are required consistently by all stakeholders.

5.3 Visibility of information on non-board committees and port-community relations

Many ports share additional information about their activities and operations (beyond any mandated regulatory reports) with their port communities. All information listed in the survey (see Table 5) is seen as very or extremely important to be visible. In this question, a different scale of 1 to 4 was used on the advice of the Qualtrix readability evaluation, with one being extremely important. In contrast to the information on board openness, there was little differentiation by region or

Table 4 Visibility of potential board member conflicts of interest

Governance item (web site/annual report...)	Total	Europe		North America		ROW (1)	
		Mean importance	P1 visibility (n=26)	Mean importance	P1 visibility (n=40)	Mean importance	P1 visibility (n=21)
			importance		importance		importance
Specifies the organizations represented by each board member	8.20	8.42	58%	7.91	55%	8.27	0%
Identifies both board committees and members (3)	8.03	7.98	35%	8.36	43%	7.67	5%
Provides bios of board members, which specify board member qualifications	8.01	8.08	27%	7.89	73%	8.06	38%
Reports executive salaries in individually (2)	7.98	7.85	See note 2	8.36	See note 2	7.67	See note 2
Provides information on other board appointments held by each board member	7.40	7.17	19%	7.52	25%	7.58	0%
Reports executive salaries in total (2)	6.33	6.71	15%	5.93	See note 2	6.30	81%
Identifies board committees	5.99	6.15	38%	6.45	63%	5.15	10%

(1) Scale is 1–10 with 10 being most important. P1 frequency comes from earlier research by Brooks et al. (2020). Only ports in South and Central America and the Caribbean were in the ROW of that study. (2) This item (executive salaries reported) was split into two components in comparison to Brooks et al. (2020), individually and in total. In North America, reporting is required by law in Canada but only found in 13% of cases in the USA. (3) The wording has changed from Brooks et al. (2020) research, which was “committee members are listed”.

Table 5 Importance of information on non-board committees and port-community relations

Information item (web site or annual report...)	Total		Europe		North America		RoW	
	Mean importance	P1 visibility (n = 87)	Mean importance	P1 visibility (n = 26)	Mean importance	P1 visibility (n = 40)	Mean importance	P1 visibility (n = 21)
Website has a community or stakeholder link	1.80	39%	1.81	15%	1.80	68%	1.76	14%
Website has a stakeholder report available (to read online or download)	1.73	21%	1.69	23%	1.85	23%	1.64	14%
Identifies standing advice committees, ad hoc or project committees	1.69	43%	1.65	38%	1.71	63%	1.73	10%
Notice when public community/stakeholder meetings take place	1.67	33%	1.81	38%	1.54	38%	1.64	19%
Reports on community investment	1.52	31%	1.50	19%	1.63	55%	1.42	0%

Importance scale is 1–4, with 1 being extremely important.

by type of information. Community investment information may appear to be most desired. The ANOVA findings and the Kruskal–Wallis non-parametric test confirmed that the differences between regional groups are not statistically significant.

5.4 Visibility and verifiability of port communications

Finally, to understand the trust placed in the typical documents made available by ports, respondents were asked first to rate the importance of the availability of specific reports and then to rate their trust in the content of those reports. The importance of verification by third parties could be an indicator of trustworthiness as audited financial reports with an auditor’s statement were preferred over summary financials, even though summary financials are often prepared as an “easy to understand” service for the general public.

Ultimately, the assessment of importance alone is insufficient. If a document is important and visible, and if the respondent trusts that the information provided is accurate, then the issue of transparency has value. Even better would be if the information is also verifiable. Therefore, the two columns (importance and trust) must ultimately be compared in a gap analysis. Before completing the importance-trust analysis, the regional groupings were compared for statistical differences in the report types’ importance and trust scores.

ANOVA analysis was used to determine if regional differences in importance and trust were significant. The ANOVA tests found no statistically significant differences between the three groups of respondents for the *importance* score for seven out of eight report types. The only report type with a statistically significant difference between the different groups of respondents is the “master plans or land use plans” (ANOVA ($F_{2,121}$) = 3.200, p = 0.044). However, the applied Kruskal–Wallis non-parametric test did not return a confirmation of this as a statistically significant difference between the various groups of respondents.

The ANOVA tests found no statistically significant differences between the three groups of respondents for seven out of eight report types for the respondent’s *trust* in the accuracy of the information. The only element that returned a statistically significant difference is “Summary financial reports (without auditor statements)” (ANOVA ($F_{2,119}$) = 3.359, p = 0.038). The Kruskal–Wallis non-parametric test confirmed the groups of respondents for which a statistically significant difference exists—summary financial statements without auditor statements were significantly different between the rest of the world and Europe with an adjusted significance of 0.018.

5.5 Are there role differences in expectations?

An ANOVA procedure has been applied, with the independent factor being the respondents according to their profession and characteristics. While Table 1 illustrates six roles, with the number of respondents, we aggregated them into three groups: the first group was those with capital at risk with the outcome (port managers and directors, port users, and port services suppliers); the second group included

the employees of regulatory authorities; and the third included those external stakeholders without “capital at risk” in transparency, which we characterize as “general public,” i.e., citizens interested in ports and researchers/scholars.

The ANOVA analysis returned no statistically significant differences between the three groups of respondents for any of the parameters examined (presented in later tables and discussed in the next section). Running Kruskal–Wallis non-parametric tests did not change the ANOVA outcomes. This statistical analysis confirmed the absence of statistically significant differences in the replies provided by the three groups of respondents in all questions. This is not a problematic outcome. If there had been differences by role type, the conclusion to be drawn by port managers would have been that ports would need to determine which target audience is most critical to their success; they would then have to prioritize how to accommodate that group with their transparency decisions. Without role differences, the strategic plan does not have to focus on accommodating these role differences but views all stakeholders as having similar expectations on the openness of decision-making, potential conflicts of interest, and the port’s reporting decisions. However, regional differences would guide the strategic response for a port’s transparency agenda, that is, planning for local responsiveness or global transparency.

6 Conclusions and future research

6.1 Conclusions

Ports may not be putting their best foot forward when dealing with port users and other stakeholders. In general, it can be concluded that there are no differences in expectations among stakeholder groups, as originally posited in Brooks et al. (2020). All stakeholders have similar expectations whether they have capital at risk or not. In fact, it was surprising that expectations of visibility, openness, and reporting were similar. It might be argued that responses may have reflected a case of normative isomorphism, implying that stakeholders may have in-depth collaborations and are part of a process through which they influence each other, resulting in their views becoming more similar to one another. This could also signal the emergence of professional practices in the business of port management, or the improved professionalism of the industry on good governance practices. For example, the American Association of Port Authorities offers communication training for port professionals and recognizes communication best practices with annual awards. The European Sea Port Organisation published a series of inventories of governance activities that spurred greater industry transparency (the latest edition: European Sea Ports Organisation (ESPO) 2016). A third example is the International Association of Ports and Harbors, which has also moved the same way; it has developed guidelines on and communication between ports and stakeholders to improve the resilience of port operations and governance (IAPH, 2020). It is the authors’ opinion that while the result may be such a case, it is also possible that the small number of respondents has limited the conclusions to regional variations, and further research is warranted.

There were regional differences in the expectations of openness of decision-making meetings, however (Table 2). Good governance in both for-profit and non-profit sectors often encourages stakeholder expectations that certain meetings be open, with advance notice and minutes, and that, in some jurisdictions, the presentation of an Annual Report and Audited Financial Statements at the appropriate time is not only expected but seen as necessary practice.

While there are differing expectations by region for the openness of decision-making meetings, no regional differences were found for either the importance of information visibility for assessment of conflict of interest or other types of port supplied information. Brooks et al. (2020) found that port communication of Annual Reports and various stakeholder reports was inconsistent and ports wanting to improve stakeholder relations would do well to examine whether they are transparent in the way stakeholders they target deem important.

How should ports respond to regional differences? One might argue that a “rising tide lifts all boats” and that a port should focus on those elements of greatest importance to all stakeholders, particularly as role differences are absent. A port could also take the regional differences into account and select those more relevant to its location. This would give weight to the adage that “all public ports are political, and all politics are local.”

Globally, the expected visibility of information, as noted in Tables 3, 4, 5, and 6, is similar throughout the world. Finally, the importance of audited financial statements to verifiability/trust and perceived transparency is evident; summary financial reports do not meet the level of trust needed to be part of a transparency agenda by the port or its regulators.

Our current findings indicate that there are regional differences in port transparency practices. Building on the theory of nested transparency factors, ports can improve the visibility of the information that stakeholders expect of them and then focus on inferability and verifiability elements. Ports, for example, could consider how outside verification can improved perceived trustworthiness with their stakeholders, specifically independent certification/verification for Corporate Social Responsibility and Environment Social and Governance Reporting. CSR and ESG reports are becoming increasingly important to investors, and it is only a matter of time before this trend spills over into citizen/taxpayer expectations of public ports. Currently, independent third parties can verify CSR and ESG reports. Many ports have ISO-certified quality programs. Canadian and US ports seek certification from Green Marine, while European ports have the Eco-Ports program for verification. Active participation in these voluntary programs and certification schemes contributes to improved port governance transparency; recent research by Geerts et al. (2021) based on a global survey of 96 PMBs has identified this participation as a significant factor in the adoption of (certified) sustainability reporting.

Regulators should ensure compliance and enforcement of existing information disclosure requirements. Best practices in transparency go above and beyond legally required minimums. Public ports should continually evaluate what stakeholders expect and strive to meet those expectations.

Table 6 Importance of report availability compared with trust in their accuracy

Report type	Importance (mean $N = 122$)	Trust mean ($N = 121$)	Gap (trust – importance)	P1 availability of reports		
				Total ($n = 87$)	Europe ($n = 26$)	N. America ($n = 40$)
Summary financial reports (without auditor statement)	2.10	2.07	-0.3	74%	78%	65%
Stakeholder reports	1.96	2.11	+	n/a	n/a	n/a
Budget reports	1.73	1.73	0.0	29%	23%	15%
Corporate Social Responsibility (CSR) reports	1.71	2.02	+	47%	53%	62%
Environmental Social and Governance (ESG) reports	1.55	1.95	+	44%	50%	27%
Master plans or land use plans	1.53	1.74	+	69%	68%	65%
Audited financial reports	1.53	1.35	-0.18	70%	68%	65%
Annual Report	1.27	1.49	+	74%	78%	65%

Scale is 1–4 with 1 being most important. A positive gap means that respondents trusted the reports. A large negative number means attention is required because the report is more important than it is trusted.

6.2 Further research

Transparency in its various dimensions has received significant attention, and the results of this research open further pathways for port managers and scholars to explore this topic for ports.

There is a need to understand the dimensions of transparency that are crucial yet underestimated or not included. There are two aspects to this dimension—information geared toward the port users and customers, and information focused towards the general public. Ports that engage users and their port community through a dashboard are to be lauded for transparency of activities (as opposed to our governance and decision-making categories). There are many types of public dashboards, and these can be an excellent means of community engagement and customer support. There are plenty of opportunities to examine the types of public engagement, the success of particular dashboard models, and other community engagement approaches.

Further on this theme, there is the question about port use of social media: Are these media creating channels of communication with stakeholders, or are they just today's format of former monthly newsletters or press releases? Are ports using social media as a one-way channel to push selected information out to the public, or are they also responding to inquiries and questions via social media? What is the port's vision for social media use? What are the best practices in improving transparency for differing target audiences?

A second potential research stream emerges in relation to compliance, be it obligatory or voluntary, and whether evolving cultural norms play a role. As noted by Hofstede (1980), cultural norms influence not only management decision-making but government regulation. Here, country- or region-level studies would be most useful, as governments decide whether compliance should be monitored and enforced. In some cases, transparency becomes part of compliance efforts. In others, port-managing entities may choose voluntary adoption, and this good governance practice would be endorsed and then disclosed. Studying disclosure in the Annual Reports would allow comparison of actual legislation to what the Annual Reports contain. Exploring voluntary/mandatory adoption patterns against cultural norms might reveal suitable governance patterns for known cultural biases.

Third, given the limited number of studies on port transparency, there is considerable scope for researching best practices through further case studies as this would be useful to port authorities wishing to improve their governance transparency.

Finally, existing research excludes fully privatized ports, i.e., those ports where privatization has gone as far as privately owned port land (on different privatization scales, see Brooks and Pallis 2012). The grounds for this exclusion have been that in these cases, the companies that own and operate the ports have different perspectives on accountability, publicly disclosed information, and, thus, transparency. Expanding research to the study of fully privatized ports and comparing the findings in ports where the public sector maintains a direct interest and/or involvement in their governance could be valuable as these ports are often not on the radar screen.

Declarations

Conflict of interest The authors declare no competing interests.

References

- Albu OB, Flyverboom M (2019) Organizational transparency: conceptualizations, conditions, and consequences. *Bus Soc* 58(2):268–297
- Berglund T (2014) Corporate governance and optimal transparency. In: Forssbaeck J, Oxelheim L (eds) *The Oxford handbook of economic and institutional transparency*. Oxford University Press, Oxford, pp 359–370
- Bernstein ES (2012) The transparency paradox: a role for privacy in organizational learning and operational control. *Adm Sci Q* 57(2):181–216
- Brooks MR (2017) A new direction or stay the course? Canada's port-specific challenges in addressing the port reform program of the 1990s. *Res Transp Bus Manag* 22:161–170
- Brooks MR, Pallis AA (2012) Port governance. In: Talley W.K. (ed.). *Maritime economics – a Blackwell Companion*. Walden MA: Wiley–Blackwell, 232–267
- Brooks MR, Cullinane K (2007) Devolution, port performance and port governance (Research in Transport Economics Volume 17). Elsevier, Oxford
- Brooks MR, Cullinane KPB, Pallis AA (2017) Revisiting port governance and port reform: a multi-country examination. *Res Transp Bus Manag* 22:1–10
- Brooks MR, Knatz G, Pallis AA, Wilmsmeier G (2020) Transparency in governance: seaport practices, Port Report No 5. <https://www.porteconomics.eu/portreport-no-5-transparency-in-governance-seaport-practices/>
- Eijffinger SCW, Geraats PM (2006) How transparent are central banks? *Eur J Polit Econ* 22(1):1–21
- European Sea Ports Organisation (ESPO) (2016) Trends in EU Port Governance 2016. ESPO, Brussels. <https://www.espo.be/publications/trends-in-eu-ports-governance-2016>
- Fenster M (2015) Transparency in search of a theory. *Eur J Soc Theory* 18(2):150–167
- Finel BI, Lord KM (1999) The surprising logic of transparency. *Int Stud Quart* 43(2):325–339
- Geerts M, Dooms M, Stas L (2021) Determinants of sustainability reporting in the present institutional context: the case of port managing bodies. *Sustainability* 2021 13:3148
- Hahn R, Reimsbach D, Schiemann F (2015) Organizations, climate change, and transparency: reviewing the literature on Sustainability Disclosure. *Organ Environ* 28:80–102
- Heald D (2006) Varieties of transparency. In: Hood C, Heald D (eds) *Transparency: the key to better governance?* Oxford University Press, Oxford, pp 23–45
- Hood C (2006) Transparency in historical perspective. In: Hood G, Heald D (eds) *Transparency: the key to better governance?* Oxford University Press, Oxford, pp 3–23
- Hultman J, Axelsson B (2007) Towards a typology of transparency for marketing management research. *Ind Mark Manage* 36(5):627–635
- International Association of Ports and Harbors (IAPH), (20201). WPSPS Covid-19 Guidance Document for Ports. Antwerp: IAPH
- Knatz G (2017) How competition is driving change in port governance, strategic decision-making and government policy in the United States. *Res Transp Bus Manag* 22:67–77
- Maciag M (2017) Most Special Districts Lag in the Transparency Department. <https://www.governing.com/archive/gov-special-districts-transparency-pirg.html>. Accessed September, 8, 2021
- Michener G, Bersch K (2013) Identifying transparency. *Information Polity* 18(3):233–242
- Notteboom T, De Langen PW, Jacobs W (2013) Institutional plasticity and path dependence in seaports: interactions between institutions, port governance reforms and port authority routines. *J Transp Geogr* 27:26–35
- Notteboom T, Parola F, Satta G, Penco L (2015) Disclosure as a tool in stakeholder relations management: a longitudinal study on the Port of Rotterdam. *Int J Log Res Appl* 18(3):228–250
- O'Brien P, Pike A, Tomaney J (2019) Governing the 'ungovernable'? Financialisation and the governance of transport infrastructure in the London 'global city-region'. *Progress in Planning* 192. <https://doi.org/10.1016/j.progress.2018.02.001>

- Parola F, Satta G, Penco L, Profumo G (2013) Emerging Port Authority communication strategies: assessing the determinants of disclosure in the annual report. *Research in Transportation Business and Management* 8:134–147
- Schnackenberg AK, Tomlinson EC (2016) Organizational transparency: a new perspective on managing trust in organization-stakeholder relationships. *J Manag* 42(7):1784–1810
- Transparency International (2021) Corruption Perceptions Index 2020. Transparency International
- Ubbels B (2005) Institutional barriers to efficient policy intervention in the European port sector. *IATSS Research* 29(2):41–49
- Valentinov V, Verschraegen G, Assche K (2019) The limits of transparency: a systems theory view. *Syst Res Behav Sci* 36(3):289–300. <https://doi.org/10.1002/sres.2591>
- Verhoeven P, Vanoutrive T (2012) A quantitative analysis of European port governance. *Maritime Economics & Logistics* 14(2):178–203
- Wehmeier S, Raaz O (2012) Transparency matters: the concept of organizational transparency in the academic discourse. *Public Relations Inquiry* 1(3):337–366
- Williams CC (2005) Trust diffusion: the effect of interpersonal trust on structure, function, and organizational transparency. *Bus Soc* 44(3):357–368

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Authors and Affiliations

Mary R. Brooks¹  · Geraldine Knatz²  · Athanasios A. Pallis³  · Gordon Wilmsmeier⁴ 

¹ Dalhousie University, Halifax, Canada

² University of Southern California, Los Angeles, USA

³ National and Kapodistrian University of Athens, Athens, Greece

⁴ Universidad de Los Andes, Bogotá, Colombia