Abstract: Cruise activities, until 2020, have presented a significant increase in revenue, as well as number of cruises and passengers transported, and it has become a challenge for ports to respond to this demand for services. In response to this, the world’s ports have implemented different governance models. In this context, in this paper, we aim to review the different governance models, as well as port cooperation, competition, and stakeholders. For this purpose, using science metric meta-analysis, an article set is extracted that strictly refers to the governance model of two databases integrated into the Core Collection Web of Science, whose selection process is polished with the PRISMA guidelines, establishing the eligibility criteria of studies using PICOS tool, to which a qualitative meta-analysis is applied. A limited studies set is identified, that includes governance model implementations, private strategies and internalization patterns in the port sector and cruise ships, patterns of port cooperation and governance, governance models in cruise ports, structures and strategies, and changes in the cruise market. Finally, various governance model forms are determined, all documented in the scientific research worldwide, discussing the various components of study topics.

Keywords: blue economy; seaport; cruise terminal; stakeholder; cooperation; competition; tourism; cruise ship

1. Introduction

In this paper, we aim to identify port system governance models that incorporate cruise tourism, cruise ship operations, cruise terminals, or passenger interactions as one of its strategic elements.

Cruise tourism is a service industry with a high-level of service quality [1], which involves all aspects of the economy and society [2] and has become an industry that significantly contributes to the tourism economy globally [3]. Revenues from this market amount to USD 134 billion annually, making it one of the fastest growing and most financially promising sectors of the tourism industry [4]. Between 2009 and 2019, the number of ocean cruise passengers worldwide increased from 17.8 million to 30 million passengers, and North American passengers make up most cruisers [5,6]. The rapid growth of the cruise industry and its effects on all the services involved in its itineraries, port development, and related services represent an opportunity to contribute to the economic development of the places and countries visited, but also to highlight its effects on sustainable environmental and social development [7,8]. In this regard, the Cruise Line International Association (CLIA) notes that cruise tourism generated, in 2017, an estimated circulating movement of USD 134 billion in total production of goods and services globally, generating an increase of 6.3% as compared with that in 2016 [3,4]. Given this, 1,108,676 jobs were generated with an 8.5% increase over that in 2016, and people employed in these jobs...
received USD 45.6 billion in revenue, an 11% increase over that in 2016 [9]. More recently, in 2019, these figures reached 1,166,000 jobs estimated at USD 50.5 billion in wages and salaries, generating a total global output of USD 154.5 billion. The effect of the COVID-19 pandemic, from mid-March through September 2020, generated losses of USD 77 billion in global economic activity and 518,000 jobs equivalent to USD 23 billion in wages [10].

As we have already pointed out, until 2020, cruise tourism was the fastest growing sector within the tourism industry [2]. However, due to COVID-19 pandemic in March 2020, due to health indications and governmental restrictions, cruise lines stopped operations and suspended their travels. Thus, the COVID-19 pandemic with government measures such as global mobility restrictions, port closures, and health socialization measures, found a cruise industry very unprepared to deal with the countless effects of this pandemic, from operational and health policies to overall business management, and which have led to an unprecedented crisis in cruise tourism [11]. All this has led to a very significant financial and value loss of major cruise lines resulting in a wide ranged collapse in the total value of the assets of the main cruise lines, i.e., the Royal Caribbean Cruises lines’ shares fell by 82.31%, and the Norwegian Cruise Line Holdings shares fell by 85.17%. Another example is Carnival where its shares in Corporation & Plc fell by 76.61% from 2 January 2020 to 23 March 2020 [12,13]. However, all of this has generated a reaction in the industry by developing action plans to revive its operations with strengthened new management systems and cost controls.

2. Background Literature

2.1. Port Governance Modeling

The challenges in port governance have focused on the effects on the surrounding territorial economy based on logistic services and integration with other modes of transport, an increase in public-private participation in ports, and an increase in the added value of services through port and port terminal performance assessment systems [14–17].

The findings of these assessments confirm that decisions depending on the trajectory of local/national systems, generate asymmetry of implementation when different countries seek generic governance solutions. Therefore, these results confirm the existence of different types of port governance models, which to some extent correspond to the hypothetical typology according to which port authorities may be conservative, facilitating, or entrepreneurial. Differences are mainly defined by geographical location and condition and governance practices between small and large ports [18–20].

By observing the implementation process of some of these models documented in mainstream academic publications, we are addressing various situations. In the Netherlands, corporatization has involved transforming state agencies into majority state-owned enterprises, such as what happened in the Port of Rotterdam, where comparing two periods showed significant improvements in all performance indicators [21]. In the case of the Portuguese government, the policies adopted in port management had different effects, causing both operations and port labor to be more productive [22]. For its part, port governance in France has changed recently, with the place of the State being the supervision of delegated ports and large seaports [23]. In the Brazilian port sector, its functions were reformulated to the National Council for the Integration of Transport Policy with decentralization of national port planning [24].

Port governance also involves considering spatial structure and information systems necessary for a mix between operational efficiency and commercial efficiency [25]. Additionally, finding the appropriate cooperation and competencies models requires a reflective effort that incorporates the stakeholders needed to not produce tariff wars and to attach governance models in coherence with territorial government systems [26,27]. This is relevant because within the same country there can be various port governance models, which can affect the mechanisms and port performance factors and their margin and profitability [28,29].
Finally, for Ferrari et al. [30] and Cao [25], the challenges of port governance models are to introduce a dynamic approach to fares that guarantees benefits to both the terminal operator and the Port Authority. In order to save on port energy and reduce emissions, the most fundamental objective is to establish a long-term strategy for the development of green ports.

2.2. Effects of Competition and Cooperation on Port Governance

Increased competition due to the consolidation of the shipping industry has resulted in the tasks of port authorities being one of the factors that can contribute to the competitiveness of a port [31–35]. Among these actions, Knatz studied [36] improvement efforts carried out by the U.S. government through capital injection, giving greater participation to agencies, changes in favor of port maintenance taxes, and a strengthening of port performance reports.

Another of the actions carried out according to De Langen et al. [21] was corporatization (restructuring or transformation of a state-owned asset or organization into a corporation), resulting in positive effects on performance in Rotterdam ports, as well as being a hallmark in port development in China [37]. In the case of Asia, Japanese ports have played a dual role, managing maritime terminals and, at the same time, developing the maritime front of their port cities for multi-purposes [38].

It is important that the institutional frameworks that have been implemented in the port reforms of different localities do not cause asymmetry in the institutional capacity at the local and national level and in the actions that they can carry out with other ports [18,39–43]. In addition, another key aspect is that governance analysis should include formal governance agreements, and also the ability and willingness to implement appropriate instruments to regulate the market, sustainable development, and human capital, and therefore maximize the economic well-being or material living conditions [44–49] (p. 27 [49]).

Improved performance and competitiveness of ports are also part of stakeholder challenges, which require a configuration aimed at responding to the external operating environment, strategies, and structures of the port organization. Moreover, the challenges are how to assess the impact of reforms, achieve systemic coordination within complex port systems, and implement market-oriented strategies [50–54].

Long-term port strategic planning must be based on the real inclusion of stakeholders, including civil society, so that it can act as a catalyst for the change of governance in the external and internal port system, being a boost to the evolution of administrative and ownership structures [55–59]. More operationally, considerations regarding the governance of commonly used infrastructure are important, in a political context that favors private ownership and liberalization of the transport sector, as well as combining global challenges with local claims [60–62].

3. Methods

The selected cases were identified using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [63], complemented with PICOS tool determining the eligibility criteria for articles (Population, Interventions, Comparators, Outcomes, and Study designs, PICOS) [64], using the thematic proximity of Solé et al. [65] publication about ecosystem services assessment in coastal areas as a methodological reference. The initial search for articles was strengthened with scientometrics [66] and the use of VOSviewer (Centre for Science and Technology Studies, Leiden University, Leiden, The Netherlands) [67], which has been used recently in topics related to this study by Alexandridis et al. [68], Ducruet et al. [69], Munim et al. [70], and Vega-Muñoz et al. [7]. Since scientometrics as a meta-analysis [71] focuses on knowledge production, spatiality of knowledge production, and knowledge relationships among the network of global actors [72,73], the initial selection of articles was refined based on a search vector using field labels, wildcards, and operators (Boolean, proximity, and priority) [74],
and its incorporation of sequentially mixed use with PRISMA, has also been addressed previously [75–77].

Articles were identified with the search vector $TS = ((PORT NEAR/0 GOVERNANCE) AND (touris* OR cruis* OR passenger*))$, using the following 5 databases from the Web of Science Core Collection (WoS): Science Citation Index Expanded (SCIE), Social Sciences Citation Index (SSCI), Emerging Sources Citation Index (ESCI), Conference Proceedings Citation Index—Science (CPCI-S), and Conference Proceedings Citation Index—Social Science and Humanities (CPCI-SSH). First, SCIE and SSCI, both contain journals indexed to the WoS Journal Citation Report (JCR), and are considered to be high-quality journals on which their impact is calculated annually based on the average citations received. Then, ESCI contributes articles that are published in journals without impact calculations but adds other publications originating in regions where knowledge production develops with less intensity and is recognized within the periphery and semi-periphery of the knowledge production [78]. Finally, the databases of Conference Proceedings (CPCI-S and CPCI-SSH) provide recent knowledge that has not yet been published in journals, but which is already part of the discussion in prestigious international conferences. Regarding Scopus, the journals indexed to SSCI-WoS have a high indexation duplicity in Scopus, but the Scopus journals do not present a double indexing with the SSCI base, and therefore these have not been considered because “Scopus covers a superior number of journals but with lower impact and limited to recent articles” [79] (p. 24).

Using PRISMA, the selection of articles based on eligibility criteria was specified as: population under study, interventions in this population, comparator elements of these studies, results to which these studies are oriented, and study designs, a set of criteria called PICOS tool (see Table 1).

Table 1. Eligibility criteria (PICOS).

| PICOS     | Description                                                                 |
|-----------|-----------------------------------------------------------------------------|
| Population| Port systems or port authorities (only seaports and maritime ports, included ports in inland waterways) |
| Interventions| Analysis, proposal, implementation, or evaluation of governance models that consider cruise traffic |
| Comparator| Port governance models that consider to some extent tourism, cruise ship operations, or their passengers (tourists, cruise passengers), in their analysis, design, implementation, or evaluation |
| Outcomes | Broad spectrum results, around the port governance studies considering to some extent the traffic of cruise ships in the port system or port authority in study |
| Study designs| Quantitative, qualitative, and mixed study types are included. |

A qualitative review of the content of the articles selected in PRISMA and PICOS was used, and the following variables were considered: key frameworks, dimensions and relevant variables, methodology, and the governance model identified or addressed in each case. The information was summarized in a sequential time-ordered table of port governance models incorporating cruise traffic on the basis of empirical categorizations, the description of cases of governance models, and the identification of models based on the results presented by the authors, if they did not expressly refer to a specific governance model.

4. Results

The scientometric search of articles identified a total of six documents from two databases in the Core Collection Web of Sciences (SSCI and SCIE). There were six unique titles and abstracts and there were six full-text articles recovered to apply a screening with selectivity criteria defined in PICOS for which it was not relevant to consider exclusions.
Thus, the screening results in six articles fulfilled our inclusion criteria, as observed in Figure 1.

**Figure 1.** PRISMA analysis flow.

**Qualitative Review Analysis**

The resulting six articles following the application of eligibility criteria were reviewed at a full-text level, to accurately define whether their characteristics provided homogeneity criteria that made them comparable. Table 2 presents the main identification and recovery information from the WoS databases.

**Table 2.** Articles included for the qualitative review analysis.

| Ref. | First Author | Journal | Publ. Year | Affiliation Author | WoS Category and DOI |
|------|--------------|---------|------------|--------------------|----------------------|
| [80] | Pallis, A.A.; Papachristou, A.A. | Transp. Rev. | Early Acces | Univ Aegean (Greece) | Transportation, 10.1080/01441647.2020.1857884 |
| [81] | Corluka, G.; Peronja, I.; Tubic, D. | Nase More | 2020 | Univ Split (Croatia), and Coll Tourism & IT Management Virovitica (Croatia). | Engineering, Marine, 10.17818/NM/2020/3.1 |
| [82] | Pallis, A.A.; Arapi, K.P.; Papachristou, A.A. | Marit. Policy Manag. | 2019 | Univ Aegean (Greece) | Transportation, 10.1057/s41278-017-0091-7 |
| [83] | Shinohara, M.; Saika, T. | Res. Transp. Bus. Manag. | 2018 | Univ Fukuchiyama (Japan) | Business, Management, Transportation, 10.1016/j.rtbm.2018.02.009 |
| [84] | Pallis, A.A.; Parola, F.; Satta, G.; Notteboom, T.E. | Marit. Econ. Logist. | 2018 | Univ Aegean (Greece), Univ Genoa (Italy), and Shanghai Maritime Univ (China). | Transportation, 10.1057/s41278-017-0091-7 |
| [85] | Panayides, P.M.; Lambertides, N.; Andreou, C. | Res. Transp. Bus. Manag. | 2017 | Cyprus Univ Technol (Cyprus) | Business, Management, Transportation, 10.1016/j.rtbm.2016.10.002 |

1 DOI: digital object identifier.
Table 2 shows a high presence of institutions mainly from Mediterranean Europe in five articles (Cyprus, Croatia, Italy, and Greece), and Asia in two articles (China and Japan). Thus, a greater presence of the University of the Aegean (Greece), independently, as well as in connection with institutions in China and Italy. In terms of thematic coverage, the six articles are mainly associated with the transportation—WoS category. The data and metadata of the articles are processed with VOSviewer [67], first detecting how they intertwined through a time series of auto-cites the studies by Pallis et al. [80,82,84], as the first two studies [80,82] are also cited by Corluka et al. [81] (see Figure 2). Secondly, there are many references that are cited together in these studies (co-citation), that is, two or more studies are used simultaneously as references for one or more studies (see Figure 3). Although it can be presumed that the common references among the three studies by Pallis et al. [80,82,84] explain this, Figure 4 clarifies that there is also a bibliographic coupling (common references) between the studies by Pallis et al. [80,82,84] and the other three studies [81,83,85].

Figure 2. Cross-citation relational graph.

Figure 3. Co-citation relational graph.
Figure 3. Co-citation relational graph.

Figure 2 represents the relational graph of quotations between the set of six articles, the size and color of the spheres indicates the number of total quotes received by these articles in the Web of Science Core Collection.

The arcs between nodes in the relational network show the simultaneous use of these references, which shows a dense connection between them, by colors (network, blue, and green) the three clusters of references that are densely connected to each other are indicated, and the thickness of the arcs indicates the intensity of the relationship.

Figure 4 shows the relational graph that links its references to the set of six articles, the thickness of the arcs between nodes indicates the intensity of the relationship, and the size and color of the spheres indicate the total number of cites received by these articles in the Web of Science Core Collection. The connections resulting from the set of references connecting Pallis et al. [80,82,84] and the other three articles [81,83,85] are presented in Table 3.

Table 3. Included articles for the qualitative review analysis.

| Articles Referentially Connected with Pallis et al. [76,78,80] | Cited Reference in Each Article (Only First Author and Sorted Alphabetically) |
|---------------------------------------------------------------|--------------------------------------------------------------------------------|
| Corluka et al. (2020)                                        | Castillo-Manzano J.L., 2014, Transport Res E-Log [86]                          |
|                                                              | Chen J.M., 2018, Int J Hosp Manag [87]                                         |
|                                                              | Macneill T., 2018, Tourism Manage [88]                                         |
|                                                              | Pallis A.A., 2014, Res Transp Bus Manag [89]                                   |
|                                                              | Pallis A.A., 2016, Tourismos [90]                                              |
|                                                              | Pallis A.A., 2018, Marit Econ Logist [84]                                      |
|                                                              | Pallis A.A., 2019, Marit Policy Manag [82]                                     |
|                                                              | Rodrigue J.P., 2013, Appl. Geogr [91]                                           |
|                                                              | Soriani S, 2009, Marit Policy Manag [92]                                       |
| Panayides et al. (2017)                                      | Baltazar R., 2006, Res Transp Econ [93]                                        |
|                                                              | Brooks M.R., 2008, Marit Policy Manag [94]                                     |
|                                                              | Cariou P., 2014, Marit Policy Manag [95]                                       |
|                                                              | Hoffmann J., 2001, Int J Maritime Ec [96]                                       |
|                                                              | Verhoeven P., 2010, Marit Policy Manag [16]                                    |
| Shinohara et al. (2018)                                      | Brooks M.R., 2017, Res Transp Bus Manag [97]                                   |
|                                                              | Cariou P., 2014, Marit Policy Manag [95]                                       |
|                                                              | Notteboom T.E., 2013, Marit Policy Manag [98]                                  |
These sets of references provide knowledge regarding how the amount of cruise traffic in a port system is interrelated with its infrastructure of attention, the development of the local port city, and its ‘hinterland’ and sustainability in its surroundings. Furthermore, to promote the understanding of governance models (and port policies) as the framework for the establishment of comprehensive port assessment and performance measures, as well as port management in harmony with stakeholders, in awareness of the capabilities and limitations of port operation and the structure and culture of internal organization of the port. Finally, they support the conceptualization of port governance as a way to respond to the current challenges of the global cruise industry.

Below, Table 4 contains the results of the qualitative systematization of the articles identified in Table 2. These articles address the issue of port reforms, the implementation of the governance model in Cyprus [85]; private strategies and internationalization patterns in the port and cruise sector [84]; port cooperation and governance patterns in Japan [83]; governance models in cruise ports, structures, and strategies [82]; port industry patterns and operation models governance in cruise port [81]; and finally, pre pandemic challenges in the European market cruise [80].

**Table 4. Qualitative meta-analysis of cruise port governance studies.**

| Authors/Topics | Key Framework | Dimensions/Variables | Methodology | Government Model |
|----------------|---------------|----------------------|-------------|------------------|
| Panayides et al. 2017 | Port reforms and implementation of port governance | Trends of framework in responsibilities | Description and analysis of framework in responsibilities of the Cyprus Port Authority and Limassol Port | Governance model for the port of Limassol proposal |
| Pallis et al. 2018 | Private entry strategies Internationalization Forms of entry Emerging partnerships | Who? Why? When? Where? Which way? | Empirical study of the forms of entry and emerging partnerships in the cruise terminal business | Private operator model |
| Shinohara 2018 | Cooperation patterns Economic cluster Port manager with innovative connectivity | Cooperation Coordination Integration Geographical position Port Origin Location Infrastructure Construction | Description of multifaceted port governance study of Japan ports management with cooperative methods | Suruga Bay Port’ model |
| Pallis et al. 2019 | Cruise port industry pattern Cruise port model of operation governance Contextual changes Triangle of relationship configuration | Port Type Port Location Port Structure Port Strategy | Empirical study, based in CATPCA | 4 Port governance models |
| Pallis et al. 2019 | Cruise port industry pattern Basic types of port operation Grow of industry Cruise lines strategies | Types of port Geographically concentration Cruise Flows Performing cruise ports Market position Dominant position Growth rate of cruises | Comparative study of port governance models and 4 research questions for empirical approach | Ports without private entry in port operation model Ports with private entry in port operation model |
| Pallis 2021 (EA) | European cruise ports transition Trend of long-term cruise port strategies | Type of challenge S, strategic O, operational S, societal E, environmental | Empirical analysis of structural changes in the European port industry | North Europe port Model Med Port Model |

*For more details see Appendix A.*
The above systematization identifies port governance models such as the governance model for the port of Limassol proposal that transitions from a public operation model to one without losing control of operations and property (a landlord model), and incorporates elements such as concessions gradually, resulting in greater development and growth in the port community and the incorporation of elements of competition. On the contrary, the Suruga Bay Port model incorporates the logic of cooperation, coordination, and integration of the bay port area, and the ‘hinterland’ integration, sea area and land, aerial, and maritime transport networks with a clear definition of the support/safety/spark roles that allow a fast reaction to natural disasters and coordination of activities between the three positions included under this governance approach.

The private operator model, four port governance models, and ports without/with private entry in port operation models, refer to a growing entry of private actors into the operation of at least some port operation functions, which depends on the type of port and the growing interests of various actors to participate in the growing crossover market, at least until the prepandemic era. These models are oriented to competition and cooperation or integration, and it can be observed that there is greater globalization of their operations together with the development of innovative strategies enabling access to economies of scale. Finally, the North Europe Port model and Med Port model correspond to management models identified from challenges that the cruise industry has faced in recent years. They differ in the location of their ports and the maturity of the cruise market. These dimensions both determine the degree of conflict and pressure of the greatest challenges identified in the Pallis et al. [80] study, implying that the cruise ports or cruise terminals of northern Europe, due to their smaller size, are less stressed unlike cruise ports or cruise terminals in the Mediterranean, in which their larger size involves more complex strategies, interaction with various types of actors, and new cruise market demands. This may seem contradictory, given that port systems in northern Europe, considering all types of ship traffic, often exceed the size and complexity of Mediterranean ports.

5. Discussion and Conclusions

From historical institutionalist logic [99], the activities of a port authority are important to international port competitiveness, and therefore it is relevant that proper governance promotes coordination, cooperation, and inter-port competition [32].

The systematization of port governance models, presented in this article, establishes some patterns of empirical and theoretical understanding that apply to greater integration of actors, diversification of strategies, and openness to private investors in line with recent analyses of the cruise sector and its future trends [100]. Thus, we understand, in this study, that the role of a port authority is reduced to regulation, coordination, and in cases where the authority is an entrepreneur, to the development of strategies that incorporate market mechanisms into port management without surrendering port ownership.

However, in terms of practical interest, the entry of new port operators such as cruise lines operating globally under business alliances, as has been observed in recent years [4, 9], suggests further privatization of port activity for this traffic type, and its touristic, hospitality, and leisure areas of influence. This can only contribute effectively to the development of destination locations, if an appropriate strategy of integration between the activities on board cruise ships, in the port, and in the tourist attractions is considered, generating new business opportunities, as illustrated in the recent study by Mangano et al. [101]. It is also clear from our work that the predominance of competition among ports is over unless it is operated in a regional and/or global way. Therefore, it is important to highlight the cooperation, coordination, and integration model of the Japanese case since competition does not occur between the ports of the integrated operating system, but with other ports abroad [83].

The pandemic has imposed challenges such as the situation faced by ports and operators in the Mediterranean and the North Sea, where the port industry with some dedication to cruise ships is changing itself in search of new operating strategies, given an industry
that has been presenting relevant strategic and operational changes given a modernization of passenger demand [3], change of infrastructure, and internationalization of operations. Although tensions are greater in the ports of greater “maturity” and size in the tourism market, prepandemic challenges realized a need to establish strategies to interact with the different actors that have entered the industry and the business environment given the emergence of variables such as the minimization of environmental impact and local development of adjacent zones to a port area.

Future research should expand and deepen this type of study, given the lack of mainstream articles that address port governance with in-depth consideration of cruise traffic, even though this type of maritime transport is related to a breadth of economic, social, and environmental aspects [7]. Although future challenges post the COVID-19 pandemic have not yet clearly observed cruise ships have been in the eye of the hurricane of this global crisis [12], the relationship with the communities of interaction in each landfall should be studied in more detail, in each of the aspects that may deteriorate, as the receptivity climate towards passengers, in this sense studies such as García et al. [102] can be an example of new research optics. In addition to this, we find it necessary to expand the geographical area of the studies, since the breadth of destinations covered by the cruise industry is not limited only to Europe and some of Asia’s major countries. Gutberlet’s study [103] gave a good account of this need to recognize, analyze, evaluate, and attempt to propose solutions in various realities around cruise ships and their participation in port systems of various latitudes. These same future research challenges show that the main weakness of this study is the extremely limited number of studies in this regard, all recently published and that do not give centrality in the models specifically exposed to the cruise industry, which prevents a greater basis of analysis of previous experiences, as well as longitudinal coverage of experiences on which long-term results can be observed. As governance studies on maritime transport for tourism purposes continue to expand, it will become increasingly easy to understand the relationship between cruise ships and the governance structure of the port systems that host them, being able to make a greater contribution of this activity to the blue economy.

Author Contributions: Conceptualization, A.V.-M.; methodology, A.V.-M. and L.A.-S.; software, A.V.-M.; validation, N.C.-B., formal analysis, G.S.-S., L.A.-S., N.C.-B. and A.V.-M.; data curation, A.V.-M.; writing—original draft preparation, G.S.-S., N.C.-B. and L.A.-S.; writing—review and editing, A.V.-M.; project administration, A.V.-M.; funding acquisition, G.S.-S., N.C.-B. and A.V.-M. All authors have read and agreed to the published version of the manuscript.

Funding: The APC was partially funded by the Universidad Católica de la Santísima Concepción.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data sharing not applicable. No new data were created or analyzed in this study. The qualitative meta-analysis used the dois in the Table 2: 10.1080/01441647.2020.1857884, 10.17818/NM/2020/3.1, 10.1080/03088839.2019.1590657, 10.1016/j.rtbm.2018.02.009, 10.1057/s41278-017-0091-7, 10.1016/j.rtbm.2016.10.002.

Conflicts of Interest: The authors declare no conflict of interest.
Appendix A

Table A1. Governance model description.

| Governance Model | Description |
|------------------|-------------|
| **Governance model for the port of Limassol Proposal (Panayides et al. 2017)** | Key framework elements:  
- Port reforms, implementation and 3 port governance traditions (Hanseatic focus on local/municipality governance, Latin tradition of central governance, and Anglo-Saxon tradition based on independent governance).  
Dimension/variables used:  
- Trends of new framework in responsibilities;  
- Supervisory board (global issues);  
- Advisory board (local issues);  
- Board of directors (internal issues).  
Relevant topics in the governance model determination:  
- Landlord model development and evolving model for port reform;  
- Separation of regulatory and commercial roles in the port system;  
- Independent regulatory authority;  
- Concession and operation success evidence in Piraeus Port;  
- Concession port services and infrastructures to individuals;  
- Growth prospects for the port community. |
| **Private operators Model (Pallis et al 2018)** | Key framework elements:  
- Private entry strategies internationalization patterns in the cruise terminal industry;  
- Forms of entry and emerging partnerships in the cruise terminal business;  
- “5-WS”.  
Dimension/variables used:  
- Who, nature and features of main actors;  
- Why, business of origin, operator typology, major resources, competences private operators, strategies pursuing, enlarging, and others relevant topics;  
- When, temporal characteristics of private entry;  
- Where, spatial characteristics of private entry, individual or aggregate profile of private investments, single projects, facility, geographic area, port range, country, port, geographic location, type of port or facility, corporate strategies, spatial outreach of firms/activities, spatial diversification strategies, regional or country specificities, institutional framework, local embeddedness;  
- Which way, entry mode, strategic issue, growth patterns and performance, degree of control exerted over new facilities, partners involved in projects.  
Relevant topics in the governance model determination:  
- PO predominant in cruise terminals operation;  
- Multiple entries to expansion strategies;  
- High fragmentation of shareholding structure for cruise terminals;  
- Accelerating liberalization and internationalization processes in the cruise terminal business. |
| **Suruga Bay Port’ Model (Shinohara 2018)** | Key framework elements:  
- Patterns of port cooperation in governance structure of ports;  
- Port as the center of economic cluster;  
- Cooperation/coordination/integration;  
- Port manager is generator of value by of the innovative connectivity.  
Dimension/variables used:  
- Cooperation;  
- Coordination;  
- Integration;  
- Geographical position;  
- Port origin, flows of ships call, load and unload cargo and passengers;  
- Location linked to movement of goods, people, levy taxes;  
- Infrastructure;  
- Construction of wharves, sheds, warehouses. |
### Table A1. Cont.

| Governance Model | Description |
|------------------|-------------|
| **Suruga Bay Port’ Model (Shinozaki 2018)** | Relevant topics in the governance model determination:  
- Cooperative and complementary framework and evolving implementation;  
- 3 major prefectural ports, i.e., Shimizu, Tagoura, and Omaezaki;  
- Create a logistical hub linked with economic prefecture development;  
- Functional division of responsibility among ports and promote complementary functions, support of logistic and industry;  
- Safety linked with disaster prevention and response;  
- Spark linked with tourism, travel, and environment;  
- Smart Port Suruga Bay and its holistic network. |
| **4 Port Governance Models (Pallis et al. 2019)** | Key framework elements:  
- Cruise port industry pattern;  
- Cruise port model of operation governance;  
- Contextual changes and relevant policy actors;  
- Triangle of relationship configuration of environment/strategy/structure.  
Dimension/variables used:  
- Port type, size, function in itinerary, attractiveness of the ports, number of existing cruise terminals;  
- Port location, country port and geographical region;  
- Port structure, development of cruise port responsible and cruise port operation responsible;  
- Port Strategy, cruise segment target, marketing and promotion responsible, economic impact studies, collaboration and partnerships, berth allocation (BA) policy, airport services at Port/ISO certification, contracting land, investments, feedback.  
Relevant topics in the governance model determination:  
- Model A, large Port, PA operation, active leadership/entrepreneur;  
- Model B, ICTO operation, the investor, facilitator;  
- Model C, TO operation, the marketer;  
- Model D, small port, PA operation, the passive, conservator. |
| **Ports with private entry in port operation Model**  
Ports without private entry in port operation Model (Corluka et al. 2020) | Key framework elements:  
- Cruise port industry pattern;  
- Basic types of port operation;  
- Faster grow of industry;  
- Cruise lines strategies centered in innovation industry, new demands.  
Dimension/variables used:  
- Types of ports, without private entry in port operation / without private entry in port operation;  
- Geographically concentration of ports;  
- Cruise calls and cruise passengers performing cruise ports;  
- Market position respect passenger flows;  
- Dominant position of cruise ports in ports of large cruisers & greater number of cruise passengers per call;  
- Growth rate of cruise passengers, cruise calls and cruise passengers per call.  
Relevant topics in the governance model determination:  
- Port with private entry, no geographically concentrated, decreased operation, less market share, annual growing cruise passenger numbers and rate of cruise ship calls;  
- Port without private entry, dispersed all over cruising regions, no geographically concentrated, decreasing cruise ship calls, higher growth rate of cruise passengers per call, primary market role, large cruisers ports. |
Table A1. Cont.

| Governance Model | Description |
|------------------|-------------|
| North Europe port model | Key framework elements:  
- European cruise ports in transition;  
- Trend of long-term cruise port strategies;  
- Strategic reforms, adaptation, modernization, cooperation, other stakeholders, roles in ports operation, global port holdings.  
Dimension/variables used:  
- According to type of challenge, strategic, operational, societal, environmental;  
- Empirical analysis of structural changes in the European port industry.  
Relevant topics in the governance model determination:  
- North Europe port model, few challenges stand, bigger vessels, relationships with cruise lines/people/businesses around the port, relationship with cruise lines, exploiting potential of winter cruising, relationship with city of arrival/local authorities;  
- Med port model, bigger size port, matured Mediterranean market, more challenges like relationships with cruise lines (tense), relationships with people/businesses around the port (complex), security, infrastructure (other than transport) in the port, connectivity of the destination with source markets. |
| Med Port Model (Pallis 2021 (EA)) | |
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