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MARITIME MUSEUMS VS. SEAPORT MUSEUMS: NAVIGATING THE EVOLUTION FROM MARITIME PORT BUSINESS TO THE MARITIME TOURISM INDUSTRY

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ABSTRACT

Ocean-based countries have more advantages compared with landlocked regions where there face challenges on the access to oceanographic activity. One potential challenge that both maritime museums and seaport museums face is the preservation and presentation of historically significant artifacts in a rapidly evolving technological and cultural landscape. The main aim of this paper is to: (a) Identify the role of seaport and maritime museums, (b) Explore the benefits of seaport and maritime museums to the seaport industry, and (c) Proposing a framework for the future research direction of seaport tourism as a complementary business opportunity for seaport industry. A bibliometric analysis technique was adopted with VoS viewer to derive the results and then coded with NVivo 12 software. The result shows that there are nine key measurement factors that need to be considered to achieve the objectives. The seaport museum and maritime museum are not the same, whereas maritime museum only focuses on all the sea-based artifacts while the seaport museum focuses on the specific sea-based artifacts which are in the port limits. Moreover, both museums encourage port city development, which can lead to cruise tourism and is an attraction point that has a high impact on the seaport's revenue generation.

Introduction

Countries with direct oceanic access have more advantages compared with landlocked countries with no direct access to ocean-based economic activity. Countries with sea-facing oceanic territories and strategic economic planning of coastal resources have benefited immensely by linking to the global logistics chain dominated by sea transport reaping the benefit of 90% of world trade. Most such countries have massive investments in ports and sea-going infrastructure to attract more shipping businesses, largely dominated by container transport. Global container throughput has reached nearly 849 million twenty-foot equivalent units (TEUs), and this indicates a spike, an overall increase 7% compared with the previous year for maritime nations across the globe (Salleh *et al.*, 2020; Salleh *et al.*, 2021; Placek, 2022). This shows that the seaport sector has become advantageous for most ocean-based nations. Many maritime players and stakeholders have kept upgrading port facilities and port infrastructure to remain

competitive in this market. According to Jeevan *et al.* (2020) and Ngah *et al.* (2022), the maritime sector is not only limited to port operations, dry ports, warehousing, and transport. However, it can be a catalyst to develop new markets including maritime tourism. The maritime tourism sector is one economically contributing sector of coastal nations that is little explored. Since cruise shipping and tourism is a well-established industry and ports connecting cruise shipping networks directly benefit from cruise services provided at ports, these services are limited to general shipping services and there are no tourism-based products developed within the ports or linked to hinterland tourist locations or marketplaces.

According to Selvaduray *et al.* (2022), maritime tourism can be separated into three

segments, which are foreland, seaport, and hinterland. Figure 1 shows the segments of the maritime tourism industry.

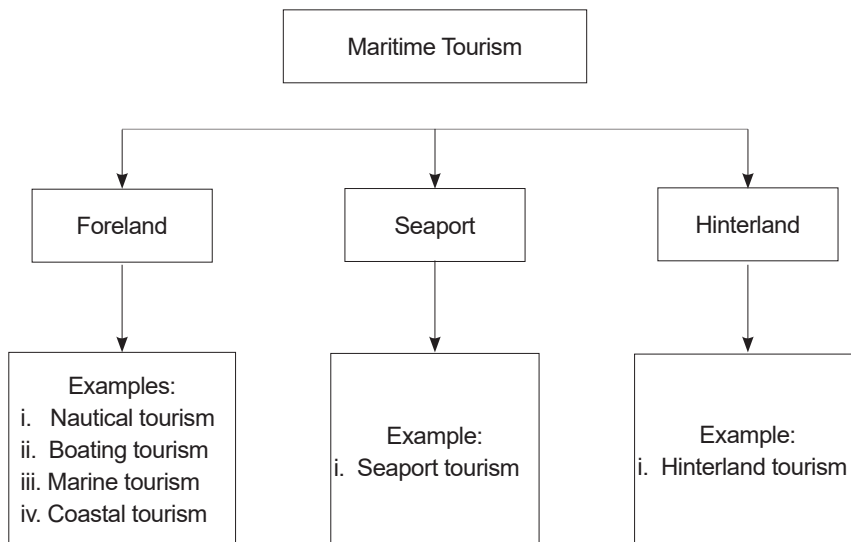


Figure 1: Segments of the maritime tourism industry

Source: Adopted from Selvaduray *et al.* (2022)

According to Lekakou and Tzannatos (2001) and Diakomihalis (2007b), the term “maritime tourism” refers to a type of tourism in which tourists participate in leisure activities in the ocean and coastal areas. Moreover, maritime tourism was designed for recreational activities in marine areas such as cruising activities, beach activities, scuba diving, snorkeling, and sport fishing which takes place in a marine environment (Diakomihalis, 2007; Kizielewicz, 2012; Tian *et al.*, 2022; Selvaduray *et al.*, 2022). Available literature indicates the definition and type of activities for the foreland segmentation; however, there is a lack of research exploring seaport tourism. This paper is an extension of the research by Selvaduray *et al.* (2022a) and Selvaduray and Bandara (2023) which highlighted the problem faced by maritime tourism and the opportunity to explore seaport tourism as an industry from a research perspective. In the dynamic context of today’s rapidly evolving

technological and cultural landscape, both maritime and seaport museums encounter the intricate challenge of effectively preserving and thoughtfully presenting historically significant artifacts. Striking a delicate balance between traditional preservation methods and innovative exhibition techniques becomes paramount to engaging modern audiences while respecting the authentic essence of these invaluable maritime treasures (Beneki *et al.*, 2012). Furthermore, previous research has justified that research into maritime tourism is somewhat limited compared with research on maritime operations because many stakeholders’ purview that the seaport sector should be focused purely on the logistics business.

Seaport Life Cycle

The roles of ports are defined by the services and activities they provide but most of the ports can be distinguished

by their transport facilities, commercial, industrial, and social functions. However, the primary task of a seaport is to provide shelter and support services for ships, handle cargo and passengers, link various modes of transport, and function as a base for industrial development (Jeevan *et al.*, 2021a; Salleh *et al.*, 2023). Driving factors of seaport development over the years include economic, technological, and political factors as well as the logistics integration between the foreland hinterlands (Rodrigue & Notteboom, 2000; Robinson, 2002; Jeevan *et al.*, 2021b; Jeevan *et al.*, 2023). The anyport model indicates that a seaport mostly depends on geographical factors (Notteboom, 2000).

Furthermore, the seaport is a center where most of the exports and imports begin. The seaport lifecycle concept by Sanchez and Wilmsmeier (2010) and Selvaduray *et al.* (2018) implies the importance of inland terminals in seaport development. A seaport necessitates a structural transformation to uphold its competitiveness.

The structural transformation of a seaport is the ability to change the layout of a seaport, the services it offers, and the logistical network. The lifecycle of a seaport is relevant to seaport development where it is divided into development, introduction, growth, maturity, and decline stages (Sanchez & Wilmsmeier, 2010), as shown in Figure 2.

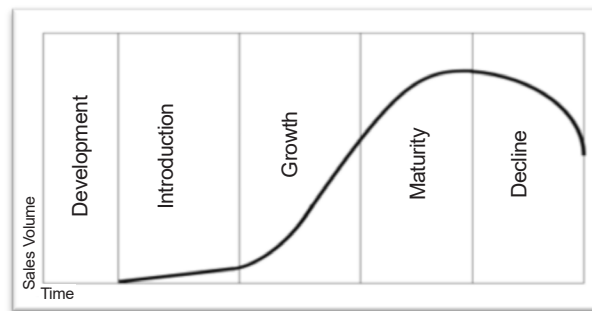


Figure 2: Seaport lifecycle

Source: Adopted from Sanchez and Whimsmeier (2010)

Many of the maritime experts were focusing on sustaining and implementing novel approaches, but none of them has explored a new market within the port limit (Selvaduray *et al.*, 2022b; 2022c; 2022d). Developing seaport tourism will be an ideal approach to sustain the port industry. The development of the seaport museum will not interrupt any port activities and thus, function as a catalyst to boost port income. The development of a seaport museum can maximally utilise unused space in the port. These steps can be taken to attract businesses, visitors to the port of call, and to sustain the seaport industry. Hence, this research paper aims

to close the gap in the literature review. The primary goal of this paper is to identify the role of seaport and maritime museums. Secondly, this paper intends to explore the benefits of the development of seaport and maritime museums for the seaport industry. Apart from that, this paper will propose a framework for the future direction of seaport tourism for ocean-based nations as an additional source of income for seaports.

Methodology

A literature review can broadly be described as a systematic way of collecting and synthesizing previous research. Literature reviews and evidence syntheses are

important research products that help us advance science incrementally by building on previous results (Lame, 2019). There are a few types of conducting literature reviews which are traditional literature reviews, systematic literature reviews, and bibliometric analysis literature reviews. A traditional literature review is a method of gathering information or sources on a specific topic without a structured approach. It draws from various sources such as magazines, books, the Internet, and other written works. A drawback of the traditional literature review is its potential for being time-consuming and resource-intensive, particularly when dealing with broad or complex topics. In contrast, a Systematic Literature Review (SLR) treats the review process as a scientific endeavour, applying empirical research concepts to enhance transparency, replicability, and reduce bias (Lame, 2019). Bibliometric analysis entails a set of analytical methodologies and procedures to identify key authors, research trends, and map emerging areas. Unlike traditional literature reviews, bibliometric analysis involves quantitative scrutiny of bibliographic data (like authorship, publication date, journal impact factor, and etc.) to reveal patterns and trends within a specific field. It aids in identifying highly cited papers, authors, and journals, tracking research field evolution over time, and highlighting research gaps (Bolbot *et al.*, 2022).

Bibliometric Analysis

The bibliometric analysis technique has been used with VoS viewer software as the main data mining tool. The results from the data mining were extracted with content analysis and then were coded with the latest NVivo12 software to achieve the objective of this paper. NVivo 12 was used to initiate text search, word frequency count, word tree, and word cloud.

Bibliometric analysis has been widely used in many fields such as biology, social

science, education, and mathematics (Ali, 2018; Dai *et al.*, 2020; Aristovnik *et al.*, 2020; Jeevan *et al.*, 2022). This novel type of literature review analysis has been tremendously adopted in the maritime sector (Jeevan *et al.*, 2021a). The main strength of bibliometric analysis is to show the results in numerical ways and statistically. According to Donthu *et al.* (2021), a bibliometric analysis is a literature review methodology that can be conducted by statistically and quantitatively analysing published studies. Several types of analysis can be conducted such as citation and network analysis, descriptive analysis on the authors, journals, universities, countries, and keywords. This paper used bibliometric analysis because it is more dependable and consistent than other literature review techniques (Persson *et al.*, 2009). According to Selvaduray *et al.* (2022), bibliometric analysis consists of nine steps.

Step 1: Define the Scope of Research

The maritime industry is continuously booming as equally as other industries such as medicine, manufacturing, and information technology. There are many sectors in the maritime industry such as marine transportation, shipbuilding, and dry ports (Jeevan *et al.*, 2015; Menhat *et al.*, 2021). To run a bibliometric analysis, it is necessary to narrow down and specify the sub-sector to get a comprehensive result. The maritime tourism industry is one of the most rapidly expanding industries in the world and a major economic driver in maritime nations (Selvaduray *et al.*, 2022). This paper has narrowed down the research scope to the maritime tourism industry.

Step 2: Determine the Search Database Platform

Scopus is a platform for scientific research with reliable databases and a broad selection of search filters (De Oliveira *et al.*, 2019; Mio *et al.*, 2022). To get comprehensive and significant results, this paper has

integrated the bibliometric analysis with two different databases called Scopus and Web of Science (WoS). Scopus and WoS were integrated primarily for the following reasons: They are both frequently used in multidisciplinary studies (De Oliveira *et al.*, 2019; Munim *et al.*, 2020; Fu *et al.*, 2021).

Step 3: Explore the Search Criteria

The search criteria are normally will be decided based on the research objectives of the paper. This paper has two main objectives which are (1) to identify the difference between the role of seaport museums and maritime museums, and (2) to explore the importance of seaport museums for the seaport industry. It is not sufficient just to include the two main keywords which are “seaport museum” and “maritime museum” because based on the largest and most reliable free online thesaurus, the seaport has many synonyms (Thesaurus, 2022). According to Thesaurus (2022), a seaport is defined as (1) a port or harbor or any place that is accessible to a seacoast that offers accommodations for seagoing vessels, and (2) a town or city in such a location. In addition, seaport reflects several synonyms

such as harbor, wharf, anchorage, dockage, dockyard, and harbourages. Based on the Thesaurus (2022), maritime demarcated as (a) any business activities associated with the sea or waterways to the sea concerning navigation, shipping, and maritime commerce activities, (b) relating to the sea-based resources or waterways to the sea or any maritime resources, (c) place bordering on the sea such as maritime towns, and (d) living near or in the sea which can be maritime plants. As a result, maritime has several synonyms which are aquatic, deep-sea, marine, naval, oceangoing, seafaring, seagoing, oceanic, and pelagic. Besides, a museum well-defined as a building or place where works of art, scientific specimens, or other objects of permanent value are kept and displayed. Thus, the word “museum” demonstrate words such as gallery, depository, exhibition, menagerie, treasury, and vault. To further investigate the accuracy and precision of all the keywords, the Cambridge dictionary was used. All the keywords above have a truthful meaning (Cambridge, 2022). Table 1 shows the search string strategies used on the Scopus and WoS databases.

Table 1: Search string strategies used on the Scopus and WoS databases

No.	Keywords Search			No. of Articles (Scopus)	No. of Articles (WoS)
1.	Seaport	AND	Museum	4	48
2.		AND	Gallery	0	0
3.		AND	Depository	0	0
4.		AND	Exhibition	0	0
5.		AND	Menagerie	0	0
6.		AND	Treasury	0	0
7.		AND	Vault	0	0
8.	Harbour	AND	Museum	0	8
9.		AND	Gallery	0	0
10.		AND	Depository	0	0
11.		AND	Exhibition	1	1
12.		AND	Menagerie	0	0
13.		AND	Treasury	0	0
14.		AND	Vault	0	0

15.	Wharf	AND	Museum	0	0
16.		AND	Gallery	0	0
17.		AND	Depository	0	0
18.		AND	Exhibition	0	0
19.		AND	Menagerie	0	0
20.		AND	Treasury	0	0
21.		AND	Vault	0	0
22.	Anchorage	AND	Museum	5	22
23.		AND	Gallery	0	0
24.		AND	Depository	0	0
25.		AND	Exhibition	0	0
26.		AND	Menagerie	0	0
27.		AND	Treasury	0	0
28.		AND	Vault	0	0
29.	Dockage	AND	Museum	0	0
30.		AND	Gallery	0	0
31.		AND	Depository	0	0
32.		AND	Exhibition	0	0
33.		AND	Menagerie	0	0
34.		AND	Treasury	0	0
35.		AND	Vault	0	0
36.	Harbourage	AND	Museum	0	0
37.		AND	Gallery	0	0
38.		AND	Depository	0	0
39.		AND	Exhibition	0	0
40.		AND	Menagerie	0	0
41.		AND	Treasury	0	0
42.		AND	Vault	0	0
Total				10	79
After removing duplicates				10	77
1.	Maritime	AND	Museum	95	395
2.		AND	Gallery	1	0
3.		AND	Depository	0	0
4.		AND	Exhibition	2	0
5.		AND	Menagerie	0	0
6.		AND	Treasury	0	0
7.		AND	Vault	0	0
8.	Aquatic	AND	Museum	0	0
9.		AND	Gallery	0	0

10.		AND	Depository	0	0
11.		AND	Exhibition	0	0
12.		AND	Menagerie	0	0
13.		AND	Treasury	0	0
14.		AND	Vault	0	0
15.	Deep-sea	AND	Museum	0	0
16.		AND	Gallery	0	0
17.		AND	Depository	0	0
18.		AND	Exhibition	0	0
19.		AND	Menagerie	0	0
20.		AND	Treasury	0	0
21.		AND	Vault	0	0
22.	Marine	AND	Museum	14	78
23.		AND	Gallery	0	0
24.		AND	Depository	0	0
25.		AND	Exhibition	0	0
26.		AND	Menagerie	0	0
27.		AND	Treasury	0	0
28.		AND	Vault	0	0
29.	Naval	AND	Museum	7	9
30.		AND	Gallery	0	0
31.		AND	Depository	0	0
32.		AND	Exhibition	2	1
33.		AND	Menagerie	0	0
34.		AND	Treasury	0	0
35.		AND	Vault	0	0
36.	Oceangoing	AND	Museum	0	0
37.		AND	Gallery	0	0
38.		AND	Depository	0	0
39.		AND	Exhibition	0	0
40.		AND	Menagerie	0	0
41.		AND	Treasury	0	0
42.		AND	Vault	0	0
43.	Seafaring	AND	Museum	0	1
44.		AND	Gallery	0	0
45.		AND	Depository	0	0
46.		AND	Exhibition	0	0
47.		AND	Menagerie	0	0
48.		AND	Treasury	0	0
49.		AND	Vault	0	0

50.	Seagoing	AND	Museum	0	0
51.		AND	Gallery	0	0
52.		AND	Depository	0	0
53.		AND	Exhibition	0	0
54.		AND	Menagerie	0	0
55.		AND	Treasury	0	0
56.		AND	Vault	0	0
57.	Oceanic	AND	Museum	0	1
58.		AND	Gallery	1	1
59.		AND	Depository	0	0
60.		AND	Exhibition	1	1
61.		AND	Menagerie	0	0
62.		AND	Treasury	0	0
63.		AND	Vault	0	0
64.	Pelagic	AND	Museum	0	0
65.		AND	Gallery	0	0
66.		AND	Depository	0	0
67.		AND	Exhibition	0	0
68.		AND	Menagerie	0	0
69.		AND	Treasury	0	0
70.		AND	Vault	0	0
Total				123	487
After removing duplicates				121	487

Source: Author based on selected literature for the review

Step 4: Define, Review, and Save

Since it is impossible for researchers to review every article that has ever been published, the researcher should select a period for review (Okoli, 2015; Sweileh, 2018). According to Donthu *et al.* (2021), 15 years of data is sufficient for analyses of research data and for observing the evolution of research. To maintain the quality of the results, the book series,

books, chapters, and conference papers must be omitted (Shaffril *et al.*, 2018; Chen & Liu, 2020; Donthu *et al.*, 2021). To avoid confusion and the complexity of translation, only English language articles were included in the search (Samiee & Chabowski, 2012; Jia *et al.*, 2020). The inclusion criteria used in the present study are summarised in Table 2.

Table 2: Summary of inclusion criteria

No.	Inclusion Criteria	
1.	Access type	All
2.	Years of publication	15 years
3.	Subject areas	Social Science, Business and Management, Sports, and Tourism
4.	Document type	Article
5.	Publication stage	Final
6.	Source type	Journals from Scopus and WoS
7.	Language	English

Step 5: Export the Data

Export options for scientific platforms are available in a variety of file formats. The best export file format is comma-separated values (CSV) file format because it allows bibliometric data to be analysed in VoS viewer without any interruptions (De Oliveira *et al*, 2019).

Step 6: Import the Data

VoS viewer is an open-source free license software that is strongly recommended for researchers in conducting bibliometric analysis. The advantages of VoS viewer are to make it more accessible and more manageable to analyse the scientific database (VOS, 2022).

Step 7: Bibliometric Data Analysis

The output of the bibliometric analysis in this paper enables the researcher to discover further in-depth and used to investigate the area unexplored such as seaport tourism. This paper adopted the six main types of bibliometric analysis which are (1) The evolution of publication, (2) Keywords, (3) Countries, (4) Authors, (5) Articles, and (6) Institutions (De Oliveira *et al.*, 2019; Jeevan *et al.*, 2021; Selvaduray *et al.*, 2022). Table 3 below explains the type of bibliometric data analysis used in this paper.

Table 3: Type of bibliometric data analysis

No.	Type of Bibliometric Data Analysis	Explanation
1.	Evolution of publication	The evolution of publication enables the researchers to explore the contribution to the advancement
2.	Keywords	Keywords are used to identify the primary research topics of various scientific research fields
3.	Countries	Countries-based research articles suggest research collaboration
4.	Authors	Author analysis determines the experts in the field who continuously publish papers
5.	Articles	Focused on answering the goal of this paper
6.	Institutions	Institutions that were continuously conducting research in the current field

Source: Selvaduray *et al.* (2022)

Step 8: Analyse and Review the Selected Articles

Researchers with more experience in the maritime field will be able to understand the content more precisely. With the assistance of NVivo 12, this paper can produce more comprehensible results.

Step 9: Conclusion

Lastly, it is significant to note that the results and new comprehensive framework obtained by using the bibliometric analysis will be justified. Figure 3 depicts the bibliometric analysis methodology which was used in this paper.

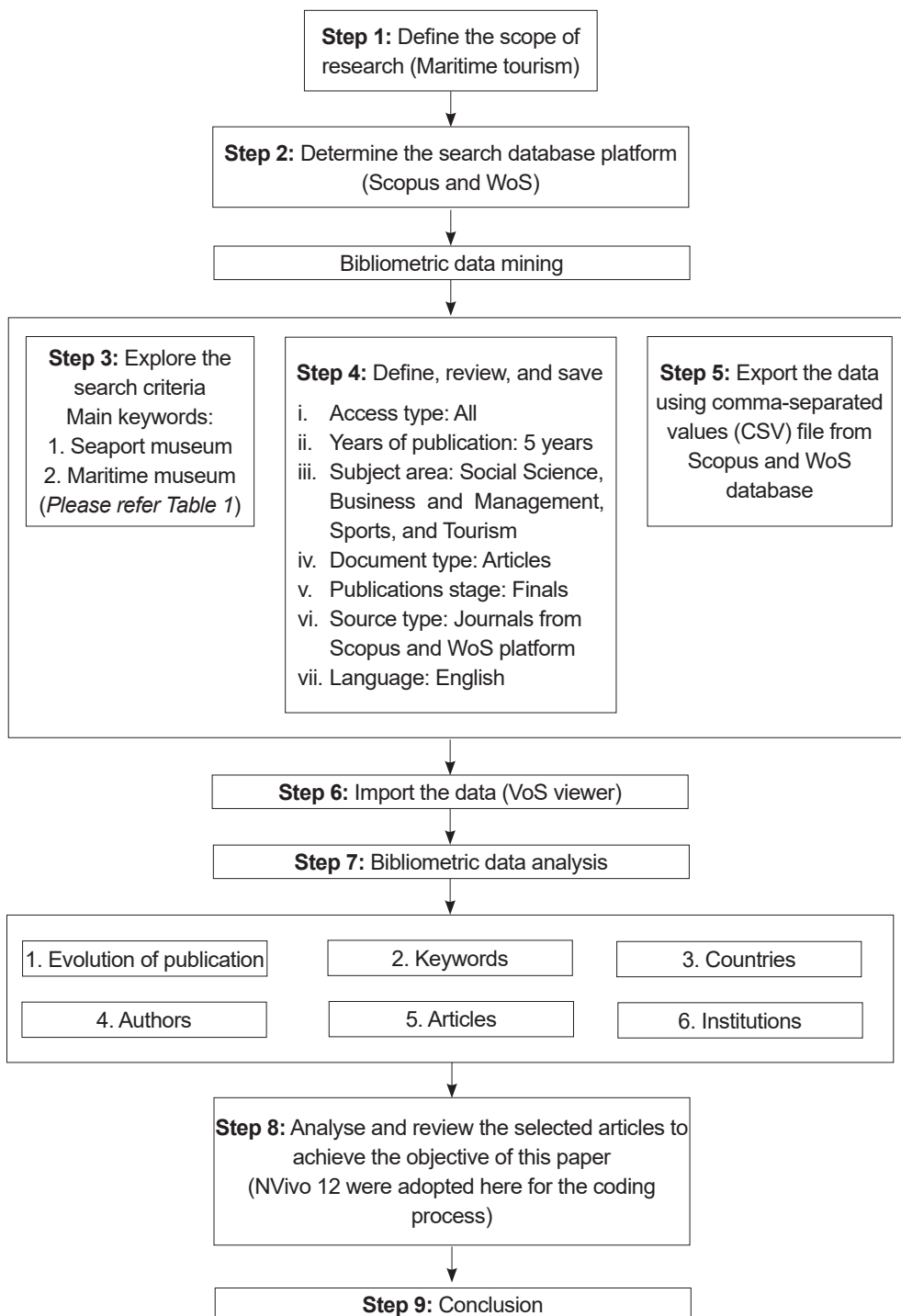


Figure 3: Flow for the bibliometric analysis
Source: Adapted from Selvaduray *et al.* (2022)

Content Analysis

Qualitative analysis techniques can be used to analyse documents or reports described by (Hsieh & Shannon, 2005; Zhang & Wildemuth, 2009; Putra *et al.*, 2018). Gülmez *et al.* (2021) suggested four steps for conducting content analysis: Material collection, descriptive analysis, category selection, and material evaluation. The researcher is guided through the literature review process by following such predefined processes. With the help of computer software (NVivo 12), the selected documents will be coded to create samples, assigning keywords to categories to be investigated, and coding them as a form of classification to indicate their level of severity.

Results

The results show that there were 10 journals for “Seaport Museum” in Scopus and 77 journals in the WoS database. Furthermore, the outcome indicates that 121 journals

for “Maritime Museum” in Scopus and 487 journals for “Maritime Museum” in WoS database. A total number of 695 journals were identified from both databases. Sub-sections will discuss the outcome of the bibliometric data analysis, consisting of an evolution of the publications, keywords, countries, authors, articles, and institutions, as well as the results of the analysis for reviewing the selected articles, from the Scopus and WoS databases to achieve the objective.

Evolution of Publications

Figure 4 shows the number of publications of Scopus and WoS databases for the 15 years starting from 2007 until October 2022. This time frame has been justified in Table 2 above. The results indicate that most of the research focused on the maritime museum rather than the seaport museum. This clearly shows that research into the potential of seaport museums needs to be conducted in the future.

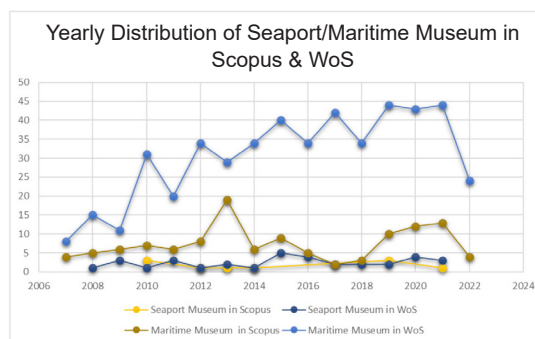


Figure 4: Number of publications from the Scopus and WoS databases
Source: Developed by authors

Keywords on the Scopus and WoS Databases

Figures 5, 6, 7, and 8 show the most frequently used keywords in the scope of the research. Apart from that, the figure below clearly indicates that this seaport museum has a potential for port development, heritage conservation, and

urban development. Figure 6 below reveals the greatest commonly used keywords for the seaport museum where the role of seaport museum functions as a common museum, as a place for maritime heritage, historical, educational purposes, and as a

museum. Moreover, the figures below show that a seaport museum can function as an operational tool for the seaport system.

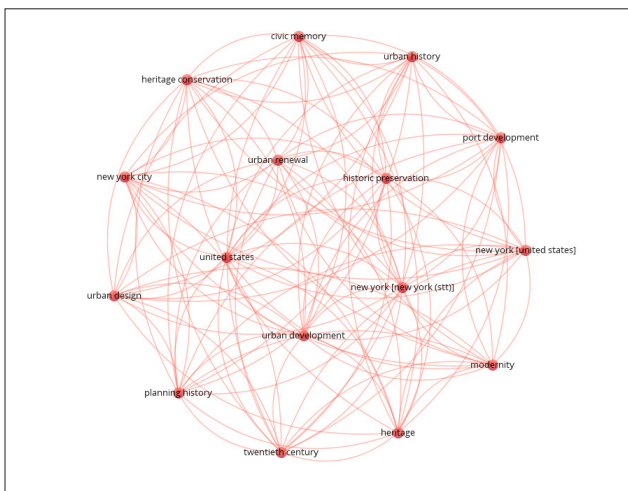


Figure 5: Keywords of seaport museum on the Scopus database
Source: Authors based on VoS view outputs

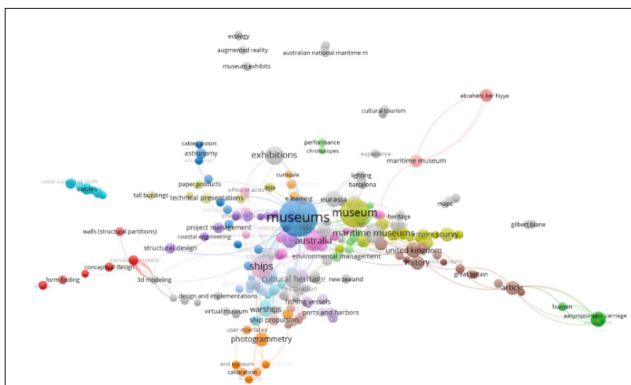


Figure 6: Keywords of maritime museum on the Scopus database
Source: Authors based on VoS view outputs

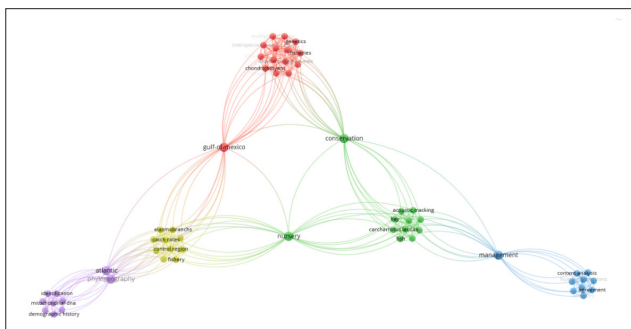


Figure 7: Keywords of seaport museum on the WoS database
Source: Authors based on VoS view outputs

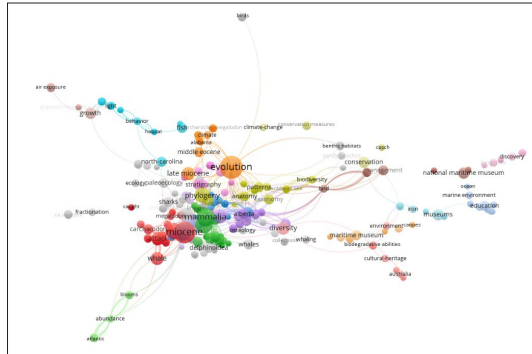


Figure 8: Keywords of maritime museum on the WoS database
Source: Authors based on VoS view outputs

Countries on the Scopus and WoS Databases

Countries that have a seaport museum on the Scopus database could not be identified since there is a lack of research on the subject. However, Figures 9, 10, and 11 show that countries have started to explore the seaport and maritime museums concepts in

detail. The figure below illustrates that the United Kingdom has rigorously explored the maritime museum concept but lacks of research on seaport museum. The unclear benefits that can be gained from seaport museums could be a reason why research on it is less.

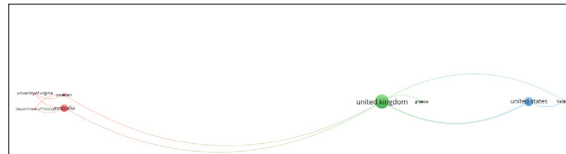


Figure 9: Countries that started to develop maritime museum on the Scopus database
Source: Authors based on VoS view outputs



Figure 10: Countries that started to develop seaport museum on the WoS database
Source: Authors based on VoS view outputs

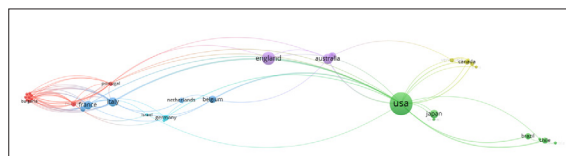


Figure 11: Countries that started to develop maritime museum on the WoS database
Source: Authors based on VoS view outputs

Author Collaboration on the Scopus and WoS Databases

Figures 12, 13, 14, and 15 shows that the top authors who started to explore seaports and maritime museums. The interconnections in Figures 14, 15, and 16 show that the authors started to share their

knowledge in the specific field but there is not any single author that is interconnected that is identified in the Scopus database for the seaport museum. Good international connections were gained more benefits than none.

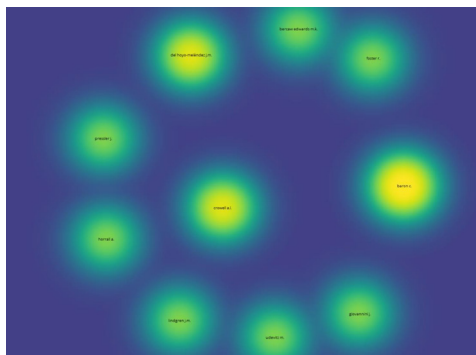


Figure 12: Collaborations among authors for seaport museum research on the Scopus database
Source: Authors based on VoS view outputs

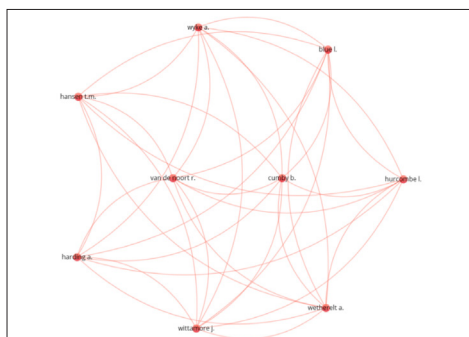


Figure 13: Collaborations among authors for maritime museum research on the Scopus database
Source: Authors based on VoS view outputs

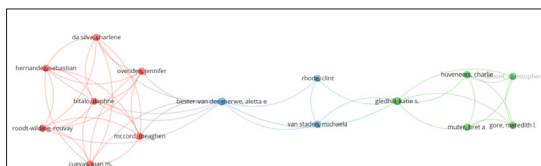


Figure 14: Collaborations among authors for seaport museum research on the WoS database
Source: Authors based on VoS view outputs

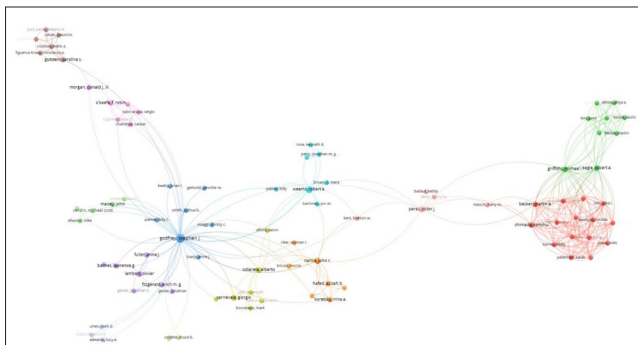


Figure 15: Collaborations among authors for maritime museum research on the WoS database
Source: Authors based on VoS view outputs

Articles Published on the Scopus and WoS Databases

Figures 16, 17, 18, and 19 demonstrate that there was a stronger correlation between publications over 15 years. The articles suggesting that the seaport and maritime museums concept may receive

more attention in the future. As a result, maintaining competency and focusing on the maritime tourism industry requires a rigorous cycle of publications centred on maritime and tourism-based journals rather than a wider scope of journal.

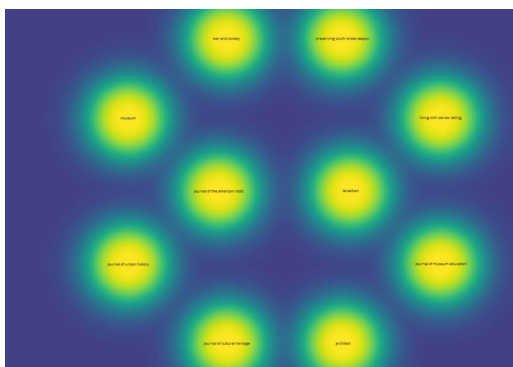


Figure 16: Articles published on seaport museum on the Scopus database
Source: Authors based on VoS view outputs

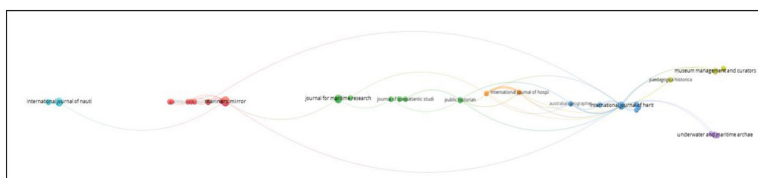


Figure 17: Articles published on maritime museum on the Scopus database
Source: Authors based on VoS view outputs

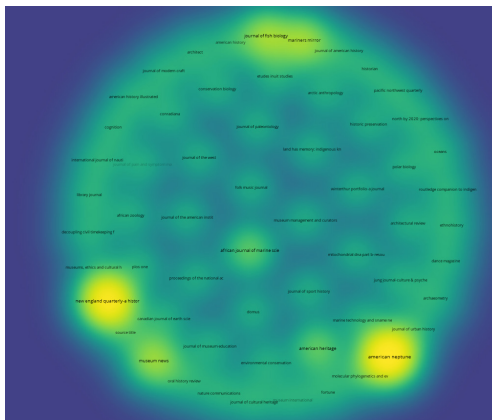


Figure 18: Articles published on seaport museum on the WoS database
Source: Authors based on VoS view outputs

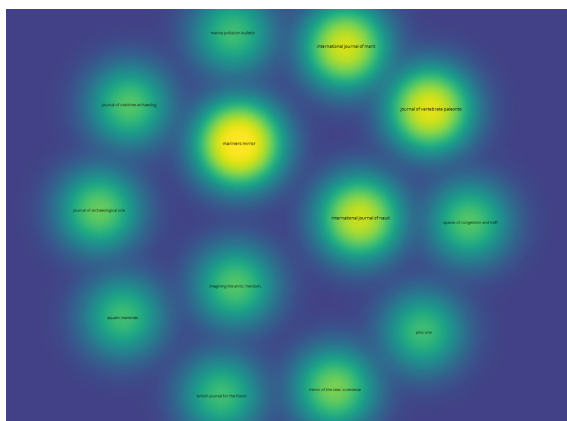


Figure 19: Articles published on maritime museum on the WoS database
Source: Authors based on VoS view outputs

Productive Institutions on the Scopus and WoS Databases

As seen in Figures 20, 21, 22, and 23, each institute is interested in advancing its study on maritime tourism and started to explore further in seaport and maritime museums. This is because the maritime tourism industry will contribute to the Gross Domestic Product (GDP) growth of a country. However, some of the seaport and maritime museums might be owned by a specific organisation that they contribute

to himself. The government should take a clear initiative to identify the role of a seaport museum and maritime museum, and how it impacts the income towards the seaport industry or the national income. Finally, researchers who have started studying the maritime tourism sector may want to consult or seek guidance from the institution's experts because the information that they will acquire from the institution is more significant and dependable.

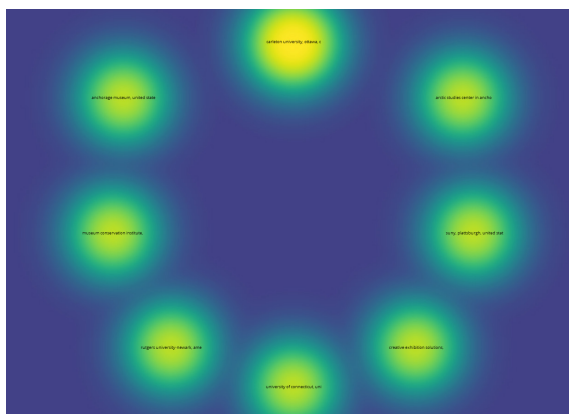


Figure 20: Productive institutions researched on seaport museum on the Scopus database
Source: Authors based on VoS view outputs



Figure 21: Productive institutions researched on maritime museum on the Scopus database
Source: Authors based on VoS view outputs

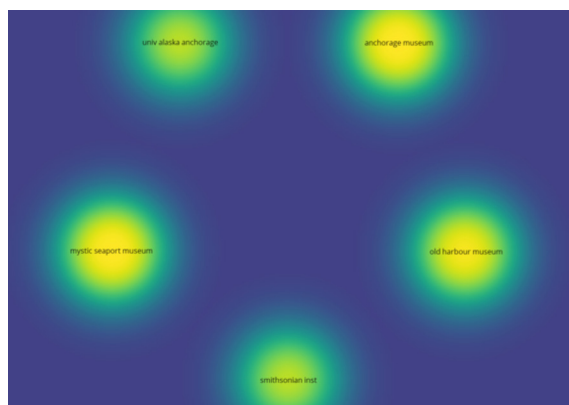


Figure 22: Productive institutions researched on seaport museum on the WoS database
Source: Authors based on VoS view outputs

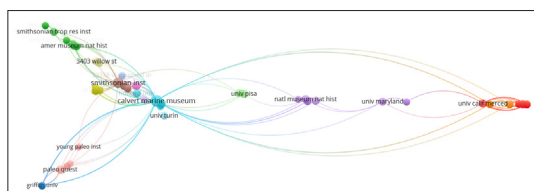


Figure 23: Productive institutions researched on maritime museum on the WoS database
Source: Authors based on VoS view outputs

Analysis Results: The Review of the Selected Articles

It is impossible to analyse those 695 journals for this section. However, according to Jeevan *et al.* (2021) and Selvaduray *et al.* (2022), that is possible to analyse highly cited articles. Moreover, De Oliveira *et al.* (2019) have confirmed the facts that highly cited articles within a reliable factor (Table 2) are adequate for an analysis to achieve the objective if the authors are fully knowledgeable in this area.

To accomplish the objectives, the results were analysed with content analysis and coded with the assistance of NVivo 12. This present study is a coded concept that had been extracted from the original data and developed in terms of their properties and dimensions (Corbin & Strauss, 2008). The results below (Figure 24, Figure 25, and Table 4) show the outcomes of NVivo 12 after the analysis of the highly cited journals from both the Scopus and WoS databases.



Figure 24: Word cloud count for seaport and maritime museum

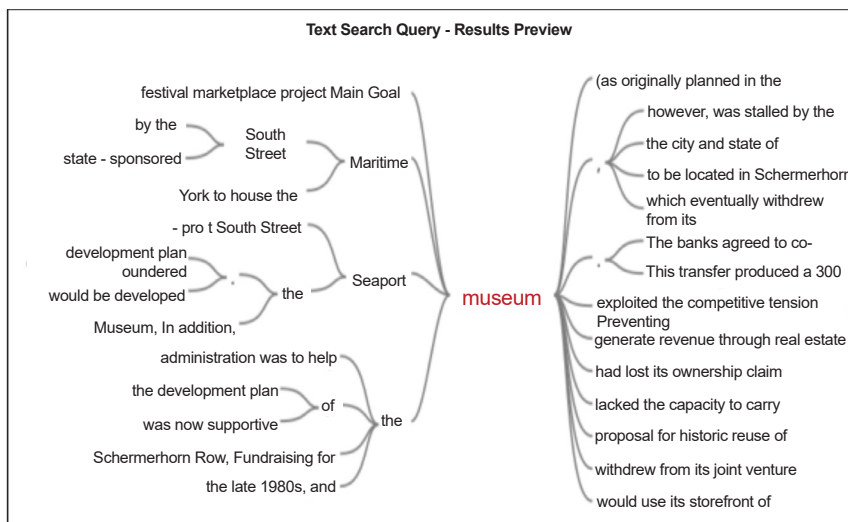


Figure 25: Word tree for seaport and maritime museum research

Table 4: Summary of the outcome for objectives one and two

No.	Measurement Factors	Seaport Museum	Similarities	Maritime Museum
1.	Locations	• In the port limit		• Outside of the port limit
2.	Function	• Reduce congestion in the seaport • Encourage city development, real estate development • Seaport festival marketplace or marketplace • Artist living areas • Fish market • Residential area • Urban cultural park • Summer tourist destination	• Cultural program • Education on history • Historical preservation • Exhibition • Festival marketplace	• To promote the specific place which is rich in marine histories
3.	Users		• Public society • Governments	
4.	Benefits	• City development	• Public society	
5.	Revenue	• Waterfront festival marketplace • Rental and sales tax	• Entry fees • Public donations	
6.	Type of organisation	• Landmarks preservation commission	• Non-profit organisation	
7.	Challenges	• No clear guidelines for earning profits • Decaying piers, ageing historical buildings, warehouses, fish markets • Higher operational and development cost	• Changing politics of city planning and urban development process • Financial issue • Commercial redevelopment • Fundraising was difficult	
8.	Suggestion to improve	• European-style festival marketplace project		
9.	Main goal	• Seaport area for historic reuse	• Preventing from demolition	• For an exhibition

Based on Figure 25, it shows that there is much potential for a seaport to be developed as a street marketplace. The development of the seaport museum as a historic place, waterfront activities, and festival market in the port limit will attract more of the public for commercial activities and eventually contribute to the port revenue. Based on Figure 26, the approaches of the seaport and maritime museums are for the festival marketplace. This festival market has been a tool for many cities' development and urban planning as well as for the residential area. Both museums were used as an attraction tool to the public society for the revenue and the tourism area growth.

Based on Table 4, academically, a seaport museum is defined as a physical structure located within the port limits that encourages city development, real estate development, and residential development where it benefits the government and public society in terms of leisure activities, education, income for both parties (government - tax and port authority - port revenue), and as a historic identity for the specific seaports. The collection of sea-based artefacts and the culture were the

only main differences between the seaport museum and the maritime museum. The nine key measurement factors needed to be considered in defining the seaport museum and maritime museum academically.

Discussion

The development of seaport museums contributes to (a) seaport revenue, (b) the development of cities or urban development, (c) real estate, (d) tourist or leisure attraction spots, (e) the National Gross Domestic Product (GDP) on tourism section, (f) employment ability, (g) conducive environment for the people, and (h) historical knowledge on own identity. The seaport museum will be the first stepping stone to the development of the seaport tourism sector which eventually contributes to port cities' development. This seaport museum benefits the seaport entities as a tourist destination point. Thus, this shows that the seaport museum is a new trend to gain extra profits for the seaport organisations. Finally, a new framework for seaport museums was developed to sustain the seaport tourism. Figure 26 shows the new framework for seaport tourism to sustain the seaport industry.

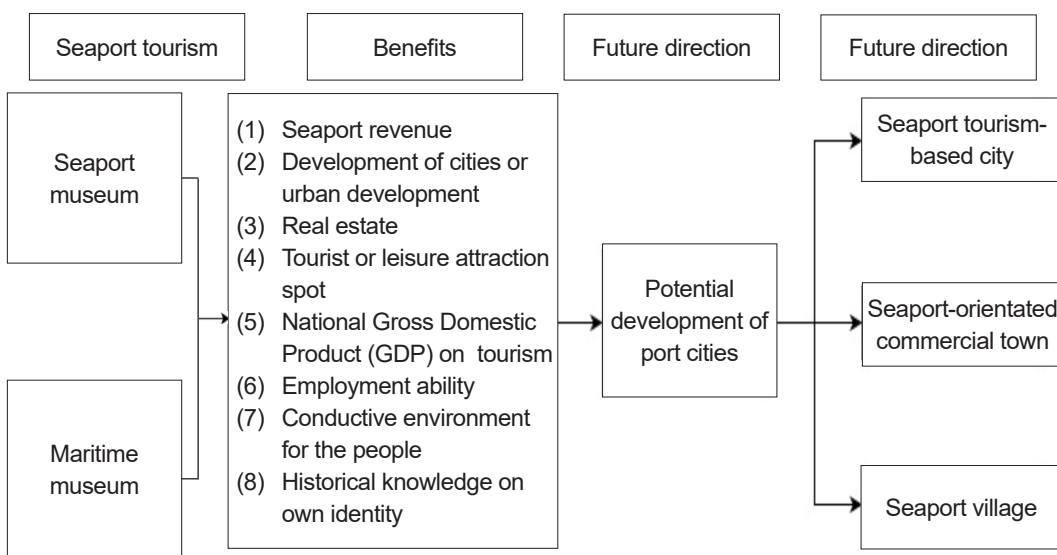


Figure 26: New framework for the future direction of port cities to sustain the maritime industry

The current revenue of a port business is from shipping activities, warehousing, storage services, customs taxes, involvement of the inland, and intermodal terminals, as well as the involvement of the dry port activities. Most of the seaports reached the stage of maturity (Figure 2) and port operators were uncertain about how to gain the profits. Most of them were investing inconsistently in the port infrastructure, for example, deepening the berth, placing more quay cranes, loading, and unloading facilities. Apart from that, some operators believe that investing the port digitalisation will give them an impact on the port revenue. Many approaches were taken by many seaport players to sustain the port business, but many players were denying seaport tourism because of the port's safety and security purposes. Theoretically, eight benefits (Figure 26) were gained from seaport tourism. The seaport and maritime museums were developed during the 19th century by South Street (New York). Appropriate planning and instability of the political situation had given a negative impact on future development. This paper strongly suggests that seaport tourism will be the next port business in the 21st century. The seaport tourism will not only end up at the port limits, but also will expand to the hinterlands. The development of seaport tourism will contribute to the development of port cities. Approaching the seaport tourism will not only benefit the seaport itself, but also the cities. The expansion of the port cities can be categorised as the seaport tourism-based city, seaport-oriented commercial towns, and seaport villages. The distance of a port city will be measured by the short-range, mid-range, and long-range distances.

This study carries significant practical implications by unveiling the distinct advantages of maritime and seaport museums in the dynamic transformation of the maritime port business into a thriving tourism industry. The strategic utilisation of

these museums can serve as compelling attractions, drawing tourists to port cities. This diversification of tourism offerings not only enriches visitor experiences, but also indirectly contributes to increased port revenue. As seaport cities embrace these insights, they can effectively position themselves as multifaceted destinations, fostering sustainable economic growth, enhancing cultural heritage preservation, and harnessing the latent potential of their maritime history to boost both local economies and broader tourism appeal. The author believes that the difference range from the seaport will have different facilities and benefits that the public will gain. Further research needs to be done to explore more on the port cities (seaport tourism based cities, seaport-oriented commercial towns, and seaport villages).

Conclusion

The seaport museum has much more advantages than the maritime museum which not only contribute to the national income, but to the port cities development, regional economic growth, and expanding the tourism industry. Based on the bibliometric analysis of 647 articles, the paper found that the approaches of seaport and maritime museums are novel to the maritime industry. Much research has been conducted since the 19th century, but the role of museums was solely focused on tourism and historical perspectives. There is a lack of research focused on integrating and reorganising these museums for revenue generation and developing them as attractions for the international visitors. From an academic point of view, the role of seaport and maritime museums can be further investigated. Academically, a seaport museum is defined as a physical structure that is located within port boundaries and promotes urban development, real estate development, and residential development, all of which are advantageous to the government and public in terms

of recreational activities, educational opportunities, income for both parties (government - tax and port authority - port revenue), and serving as a historical marker for the seaports. The seaport museum and maritime museum are not the same, a maritime museum focuses on all sea-based artefacts while the seaport museum focuses on the specific sea-based artefacts located within the port limits. Future studies can focus on how virtual reality applications on seaport tourism could benefit any region as well as on the significant factors that could contribute to the development of seaport museums in all nations.

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