

Exploring the development of Malaysian seaports as a hub for tourism activities

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Abstract

Purpose – The purpose of this paper is to explore the prospects of Malaysian seaports as hubs for seaport tourism. This symbiosis nexus between seaports and tourism needs to be explored to provide a luxury economic growth. Combinations of these two segments are expected to explore a new market in Malaysian tourism industry.

Design/methodology/approach – A thorough case study consists of five major seaports in Malaysia including Penang Port, Port Klang, Port of Tanjung Pelepas, Kuantan Port, Bintulu Port and Kota Kinabalu; these seaports have been selected to reveal their opportunities for the prospect of Malaysian seaport tourism via spatial interaction model.

Findings – Four main components including cruise activities, support from intra-region and inter-region economic corridors and the seaport regionalisation can be integrated to reveal the capacity of Malaysian seaport to be hub for seaport tourism.

Originality/value – This paper incorporates tourism sector as one of the streams in the fifth-generation seaports. Seaports and tourism are two economic generators in Malaysia and infusion of these components is expected to enhance the economic prospect, diversify the function of seaports and reduce the over-dependence on conventional tourism activities.

Keywords Case study, Malaysia, Seaports, Tourism

Paper type Case study

Malaysian seaport systems

The location of Malaysia in the heart of Southern Asia, immediate borders with Singapore, Thailand and Indonesia, the exposure more than three quarters of it land mainly to the South China Sea Malacca Strait, surplus geo-economic advantages especially on nations resources, spatial, temporal, capital and market significantly emphasise the importance of seaports in the trade activities in this specific region. This has been further evidenced by the growth of the volume in trade by 1.5 per cent in this region from 1.463tn in 2015 to 1.485tn in 2016 ([Malaysian External Trade Statistics, 2017](#)). Malaysia is a focal location for international investment hub especially for international shipping companies such as China Shipping Group Company, Maersk Line and Evergreen. These mega carries corporations



have and planning to invest in Malaysian main seaports including West Port (operator of Port Klang) as well as Port of Tanjung Pelepas (operator of Johor Port). This specific advantage determines the high dependency of its national trade and economy on maritime business. For example, volume of container freight handled in all main container seaports in 2013 was 329.9 million tonnes compared to 179.0 million tonnes in 2010 which shows the magnificent growth and dependency of seaports on sea-based freight (MOT, 2014).

In Malaysia, seaports are classified as federal seaports and state seaports. Port Klang, Penang Port, Johor Port, Kuantan Port, Bintulu Port and Malacca Port are categorised as federal seaports, while Lumut Port, Kota Kinabalu Port, Kuching Port and Miri Port are examples of state seaports (MIMA, 2014). In addition to federal and state seaports, there are also secondary seaports and jetties under the jurisdiction of the Marine Department and managed under the Merchant Shipping Act 1952 and owned and operated by oil companies, tourism sectors and fisheries sectors as indicated in Figure 1 (MIMA, 2014).

From the administration perspective, all federal seaports are governed by the Ministry of Transport (MOT) under the supervision of the Maritime Division. The state seaports are under the jurisdiction of the State Ministry (MIMA, 2015). Each federal seaport is assisted by terminal operators. For example, Port Klang Authority is assisted by West Port and North Port; Johor Port and Port of Tanjung Pelepas (PTP) are the operators for Johor Port Authority; there are two operators each assisting Penang Port Commission, Malacca Port Authority and Kuantan Port Authority respectively and one operator for Bintulu Port Authority. Seaport authorities play the role of regulator, supervisor and facilitator for the seaport operators' activities.

Tourism industry in Malaysia

In the current challenging lifestyle, stress has been emerged especially from the continues demand to meet basic needs, accelerating demand in the place of work as well as difficulties



Figure 1. Location of various seaports in Malaysia

Source: Adapted from MIMA (2014)

in the personnel relationships. According to [Berno and Ward \(2005\)](#) the development of tourism activities has been initiated to understand and attempted to reduce significant impact from the catastrophic demand in human life. In general, tourism can be defined as activities of people travelling to and staying in places outside their usual environment for leisure, business or other purposes for not more than one consecutive year ([Tourism Society, 2017](#)). Therefore, tourism has become a competitive and dynamic sector that entails the capacity of adaptability towards the changes in customers' demand, the level of satisfaction, availability of safety procedures and variations of enjoyment level among the tourist ([Tourism Society, 2017](#)).

Malaysia offers a wide range of cultural activities, natural heritage and leisure activity. As indicated in the [Table I](#), based on the statistics from [EPU \(2016\)](#), total value of Malaysian Gross Domestic Product (GDP) showcases an increasing trend from 2007 (841.36bn) to 2015 (1,287.97bn). In general, however, the contribution of tourism industry in Malaysian GDP indicates the opposite trend compared to the value of the total GDP. In detail, the contribution of tourism industry in Malaysian GDP elicits the declining trend from 1.94 per cent in 2007 to 1.48 per cent in 2015. The contribution of tourism sectors has been encountered positive development especially in 2009, 2013 and 2015. On the other hand, changes of this industry have faced downfall especially on 2008, 2010, 2011, 2012, and 2014. In nutshell, the contribution of tourism sector in this region is not significant by the average contribution of this business is about 1.23 per cent every year.

Momentous innovation is required in tourism industry to ensure the contribution of this sector is equivalent compared to other industry such as mining and quarrying (MYR 98.2bn in 2016), agriculture (MYR 93.6bn in 2016), manufacturing (MYR 254.2bn in 2016), construction (MYR 50.4bn in 2016) and other services by MYR 594.0bn in 2016 ([EPU, 2016](#)). In comparison, total of tourist embarking and disembarking in Europeans seaports are more than 400m in 2016 (Eurostat 2017). However, in Malaysia, almost 6,841,493 passengers have been recorded at Malaysian seaports in 2016 ([Malaysian Marine Department, 2017](#)). Unfortunately, the trend of tourist handled in Malaysian terminals has been reduced substantially. For example, the number of tourist/passengers handled in 2010 was 18,968,152, then the volume started to decrease, fluctuate and drop significantly to 7,257,803 in 2015 ([Malaysian Marine Department, 2017](#)). Based on these circumstances, seaport tourism has been proposed as a new cluster in maritime business via this paper by revealing

Year (s)	Total gross domestic product (MYR billion)	GDP of tourism (MYR million)	Contribution of tourism in GDP (%)	Changes of the tourism in GDP (%)
2007	841.36	16.4	1.94	-
2008	1,003.33	12.7	1.26	-0.68
2009	879.22	13.4	1.52	+0.26
2010	1,108.57	13.1	1.18	-0.34
2011	1,295.18	12.7	0.98	-0.2
2012	1,366.58	13.0	0.95	-0.3
2013	1,405.26	13.7	0.97	+0.2
2014	1,687.07	14.2	0.84	-0.13
2015	1,287.92	13.5	1.04	+0.64
2016	1,211.94	13.8	1.13	+0.09
2017	1,285.51	13.4	1.04	-0.09

Table I.
Total revenue of
Malaysian tourism
industry (2007-2017)

Source: Adapted from EPU (2018)

the prospective in this region to enhance the contribution in the national GDP. Further, this paper will explore the opportunity to assimilate seaport and tourism sectors for a collective benefit to the nation.

Methodological approach

A thorough multiple case study will be employed as the research approach and content analysis will be executed among major seaports in Malaysia including Penang port, Port Klang, Kuantan Port and PTP in peninsular Malaysia and Bintulu and port of Kota Kinabalu in east Malaysia which have been selected for this research. Owing the capability to explore new phenomenon and reveal comprehensive descriptions on certain case and its analysis (Starman, 2013), a multiple case study approach has been employed in this paper. Multiple case study approach has been adopted in this paper to produce clear understanding on the phenomena. Further the application of this specific method is important to analyse the data within each situation and across the situation (Gustafsson, 2017). In this paper, the current understanding on Malaysian seaports needs to be explained and the potential of these nodes transforming onto tourism hub need to be explored. On the other hand, content analysis was used as tool for data analysis because of its ability to categorised, counted or measured any elements in text. For example, presence of certain words or expression, metaphors, arguments or the frequency of particular phenomenon is referred to (Boréus and Bergström, 2017). Hence, secondary data as well as primary data from face-to-face interview sessions will be used to extract themes to answer the research question about the potential of Malaysian seaport tourism in this paper. Participants for this paper have been selected from seaport authority (SA), Malaysian Marine Department (MD) and Ministry of Transportation (MOT). Interview sessions among these key players in Malaysian seaports and cruise industry were undertaken between 12 and 15 April 2017. Each interview session took between 90 and 120 min.

Nexus between seaports and tourism

The role of seaports has changed due to a globalised and deregulated environment (Robinson, 2002). Technological changes such as containerisation and the development of intermodal logistic have made seaports a node in the supply chain network. As a result, seaports have become a network-based entity (Hall, 2002). The network concept has pushed seaports to develop their relationship with their hinterlands and regions for a collective benefit. Further, European Commission (2009) indicates that climate attraction, culture, portscape and variation in seaport functions in seaports develop a mutualistic nexus between seaports and tourism.

The location of Malaysia in the equatorial region and covered by tropical rainforest climate become main reasons on the existence of hot and humid throughout the year. Port Klang and Penang Port which located in the west coast of peninsular Malaysia are exposed to typical tropical condition; hot, sunny and humid with showers all year round. The coastal zone is a major focus for recreation and additional economic activity (Sachs *et al.*, 2001). In contrast, Kuantan Port and PTP own wonderful beaches along the east coast with continue sunshine. In addition, the existence of several islands such as Redang and the Perhentian Islands increase the demand of cruise activities at these seaports.

All Malaysian festivals and celebrations have their own tradition culture every religion kept for future generations. Tourists, passenger and crew of vessel who berth at seaports especially at Port Klang, Penang Port, PTP, Kuantan Port and Bintulu Port can take this opportunity to explore and enjoy new culture exist in this region.

Portscape is defined as the 'overall visual impression of the built environment and nature scenery at seaports' (Kato, 2014, p. 105). Therefore, the seaport and harbours in this region can be used as a marketing/promoting tool for boosting the regional economic development. This strategy provides tourist, passenger or the vessel crews access to the seaports especially to enjoy the view of waterfront.

The variation of seaports function as river and barter trade seaport in Malaysia indicates the ability of this node for multitasking. River port is used for facilities that handle river traffic especially at Rajang River at east Malaysia (Kader, 2014). The flow of this river crossing Brunei, Sabah, Sarawak and Indonesian enhances the attractiveness for freight and tourist accessibility. On the other hand, barter trade generally refers to trade activities between opposite shores of the Straits of Malacca. Barter trade recorded 84,000 vessels in Malacca straits from 2004 until 2010, contributing approximately 18-24 per cent of the total trade in Malaysia (Jeevan *et al.*, 2015). In addition to Port Klang, Penang Port and PTP, Malaysian minor ports such as Port Dickson, Muar seaport and federal seaports such as Malacca port are involved in barter trade between Thailand, the Philippines and Indonesia (Rusli, 2012). Hence, the variation of seaports functions in the river freight activities and barter trade can be used for passenger or tourist handling terminal to boost the tourism sector in the nation.

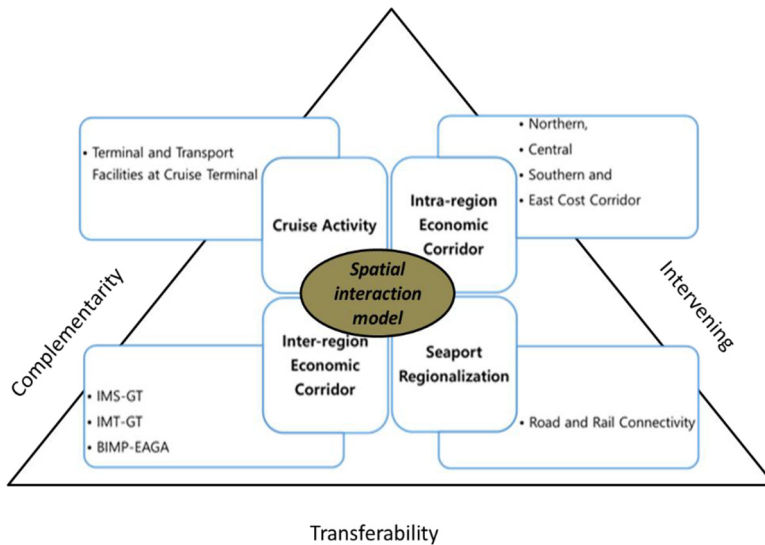
Spatial interaction model in Malaysian seaport tourism: an evaluation of the prospect

Seaport tourism is referred to tourism activities in specialised seaports (Jugovic, 2006). The respective seaports need to be equipped with modern built, customs and immigrations procedures, organised facilities, equipment and activities for accommodation, location and maintenance of craft for nautical tourism, updated facilities with the purpose of providing relevant services to tourist in various activities and leisure navigation on sea, excursion activities to surrounding prominent and distinguish locations and restaurants to be involved in the seaport tourism.

The spatial interaction model is a model that normally applied in various fields including trade, leisure activities and tourism. According to Rodrigue (2017), a spatial interaction is a realised movement of people, freight or information between an origin and a destination. This model focuses on tourism flow between or within the regions (Khadaroo and Seetanah, 2008). The potential of each seaport to become a hub for seaports tourism are revealed according by incorporating spatial interaction model between cruise activities, economic corridors and penetration of seaport via seaport regionalisation (Figure 2). This figure depicts the potential opportunities own by Malaysia seaport tourism especially for commuting the tourist within and between the countries.

Spatial interaction model is effective to explore, analyse and explain flows of people, goods or information over space. Therefore, it has been widely used to analyse migration flows, freight transport flows and trade flows (Kerkman *et al.*, 2017). In addition, this model may analyse the influence of spatial characteristics and characteristics of the transport network simultaneously (Bates, 2000). In general, spatial interaction models are formulated to predict flows of goods, information or person between zones. In this paper, the application of this model will be used to predict the movement of tourist from point of origin to point of destination. There are three main components involved in spatial interaction model including complementary, transferability and intervening (Rodrigue, 2017).

These three main pillars will be used to determine the efficiency of this model in Malaysian seaport system by including distance of the location (complementary), travelling cost (transferability) and accessibility (intervening). Hence, in this paper, all these



Source: Authors

Figure 2. Mapping the prospect of Malaysian seaport tourism via spatial interaction model

components will be integrated in Malaysian seaports to explore the possibilities the emergence of seaport tourism.

Based on the requirements for seaport tourism activities, it can be concluded that seaport activities are not limited to the sea-based activities but extended towards the inland. Therefore, the prospect of Malaysian seaports to transform into tourist-based seaports will be evaluated from four main scope including cruise activities, support from intra-region and inter-region economic corridors as well as the evolution of seaport regionalisation. Although Malaysia has developed its own cruise seaport, this paper will evaluate the prospect of Malaysian seaport to become a hub for seaport tourism. This is because, the limitation at cruise seaports encourages the cooperation of these cruise seaports with Malaysian container seaports to develop as a major hub for seaport tourism. In detail, this paper reveals the limitation of Malaysian cruise terminals and discloses the prospect of Malaysian container seaports to be a tourism hub. The following section reveals all components that have been proposed in the spatial interaction model to boost seaport tourism in Malaysia. These components include cooperation with cruise activities, inter/intra-regions economic corridors and seaport regionalisation.

Cooperation with cruise activities

The Maritime Division also coordinates the development of cruise tourism, especially in the development of cruise infrastructure at each destination in Malaysia to achieve international standards as outlined in the Cruise and Ferry Integrated Seaport Infrastructure Blueprint for Malaysia (MOT, 2017). Cruise Tourism is one of the National Key Economic Area (NKEA) with the aim to increase the number of tourists to Malaysia. Currently, there are only a few dedicated cruise terminals located in Penang, Langkawi, Port Klang, Malacca, Sabah and Sarawak. In Penang terminal, there are four berths actively operated with 10.5-meter draft

and total 730 metres length. The trend of passenger cruise in Penang terminal is increasing from 132 in 2013 to 145 in 2015 (Table II).

In the *Tenth Malaysia Plan (2011/2015)*, the Malaysian government decided to invest a massive amount of money to upgrade the capacity of seaports. This important decision has been made because Malaysian seaports will face tremendous constraint in terms of their capabilities in handling surplus containers from 2016 onwards (Containerization, 2016). However, the utilisation of vessels in berth in Port Klang, Johor, Kuantan and PTP are underutilised. For example, the difference between berth capacity and ships call per day at Port Klang, Johor seaport, Kuantan seaport and PTP are six, three, seven and four vessels respectively. On the other hand, Penang seaport has recorded overcapacity at its berth whereby the number of ships call was higher than berth capacity (Table III).

No.	Location	No. of berths	Draft (metre)	Berth length (metre)	Year 2013	Year 2014	Year 2015
1	Swettenham Pier Cruise Terminal, Penang	4	10.5	T1-220 T2-190 T3-180 T4-140	132	137	145
2	Langkawi, Kedah	2	11	T1-178 T2-145	58	43	80
3	Boustead Cruise Centre, Port Klang	3	14	T1-438	102	97	137
4	Kuching, Sarawak	6	8.5	T2-195 T3-210 T1-100 T2-100 T3-100 T4-100 T5-100 T6-100	6	8	6
5	Malacca	2	3	T1-40 T2-40	45	46	49
6	Kota Kinabalu, Sabah	12	9.6	Average between 120-350	16	25	31

Table II.
Description and statistics of passenger cruise in Malaysia (2013-2015)
T- terminal

Source: MOT (2017)

Malaysian sea ports	Average ship calls per year (2010-2015)	Average ship calls per day (A)	Berth length (meter)	Berth capacity ship/day (B)	Berth utilisation (A-B)
Port Klang	17,031	47	15,600	53	-6(underutilised)
Penang	6,505	18	16,200	6	+12(overutilized)
Johor	4,350	12	4,474	15	-3(underutilised)
Kuantan	2,384	7	4,013	14	-7(underutilised)
PTP	4,812	13	5,040	17	-4(underutilised)

Table III.
Utilisation of berth capacity in Malaysian seaports

Source: Adapted from Othman *et al.* (2016)

Although berth capacity has outgrown the number of ships calls per day and become a major obstacle in Malaysian seaport performance, this situation can be converted to improve the berth utilisation by allocating the berth in those seaports for cruise and passenger vessels. Therefore, the tourism sectors especially at the seaport area and the utilisation of the berth in those seaports can be amplified significantly. Despite of leaving berth at seaports remaining underutilised, it will be appropriate to integrate the seaport tourism with seaports in order promote this upcoming industry as well as enhancing berth utilisation at seaports.

To improve the utilisation of seaports, one of the participants (SA), emphasised that “seaport authorities need to improve the seaport marketing strategy”. This participant also added that, “seaport marketing is crucial to improve seaport tourism activities”. Further, this participant also said that the “involvement of ministry of tourism at seaports is essential to promote tourism activities at this area as well as increasing the berth utilisation at these seaports”. Currently, there are many passenger vessels berth at Port Klang, however, the passenger in those vessels face many difficulties and due to the delay caused by the immigration’s clearance procedure. In norm, the participant (MD) mentioned that:

[. . .] cruise vessel only berths one day at the seaports. The delay caused by the immigration procedures restricting the pleasure that tourists supposed to enjoy in the seaport area as well as in the inland. As a consequence, the passenger needs to return to the jetty by 7 pm for the departure.

This indicates that delay in the documentation clearance affecting their pleasure and shortening the time that they have to adore the great scene, food and entertainment in inland of port of call.

To improve the immigration procedures, a participant (SA), has suggested that:

[. . .] the immigration procedure shall take place in the vessels rather than at port of call. This procedure improves the efficiency of immigration clearance as well as enhancing the satisfaction of the passenger at the port of call.

Although, these two participants provide substantial strategies to improve seaport tourism in Malaysia, one of the participants (MOT) declared that “Malaysian seaports are not suitable to be transformed into tourism hub”. This participant is very vigilant towards the safety aspect at the seaport terminals in which the environment surrounded with large and dangerous equipment and exposure to high-risk environment reducing the potential of Malaysian seaports to be hub for seaport tourism. Hence, this participant added the:

[. . .] preparation of local seaports with specialised passenger terminal which away from cargo handling equipment, separate passenger enter/exit gate and guided by highly trained workforce will reduce the risk among the passenger at seaports and enhancing the potential of these venue to be hub for tourism activities.

The content in [Table IV](#) indicates the overview of present cruise terminal in Malaysia. Based on this table, all five cruise terminals are well connected to the major place of interest. Moreover, cruise terminals at Klang and Penang are filled by sufficient terminal facilities. On the other hand, cruise terminals at Kuantan, Bintulu and Kota Kinabalu are not fulfilled by complete terminal facilities. In addition, in term of transport facilities, all cruise terminals need to be provided prior notice before berthing and no berthing facility provided in Bintulu cruise terminal. These conditions limit the marketability of Malaysian tourism industry in selective area. Therefore, all the underutilised seaports as shown in [Table III](#) can be used for the berthing of cruise vessels and at the same time enhance the popularity of those places for tourism activities.

Table IV.
Overview of
Malaysian terminal
and transport
facilities at cruise
terminals

Cruise seaports	Klang	Kuantan	Penang	Bintulu	Kota Kinabalu
Place of interest	Petronas Twin Towers, National Museum, Merdeka Square, KL Tower, KL Bird Park, Kuala Lumpur Craft Complex, Royal Selangor Visitor Centre, Putrajaya, Carey Island, Batu Caves, Little India and Klang	Lake Chini, Teluk Chempedak and The Great Mines of Sungai Lembing	Penang Hill, Cheong Fatt Tze Mansion, Fort Cornwallis, Pinang Peranakan Mansion and Penang National Park	Pantai Tanjung Batu, Similajau National Park, Kuan Yin Tong Temple, Kampung Jepak and Longhouse and Council Negeri Monument - The Birth Place of the Sarawak Legislative Council	Tunku Abdul Rahman Park, Kota Kinabalu, Poring Hot Springs, Ranau, Kinabalu Park, Kundasang, Mari Cultural Village Inanam and Gaya Street (Sunday Market)
<i>Terminals facilities at cruise seaports</i>					
Terminal building	Yes	No	Yes	No	Yes
Covered walkway	Yes	No	Yes	No	No
Tourist information centre	Yes	No	Yes	No	No
<i>Transport facilities at cruise seaports</i>					
Distance from pier to nearest town centre	Port Klang-13km and Klang - 20km	28km	1 km, located in George Town itself	10 km	1 km
Walking distance to Town	No	No	Yes	No	Yes
Shuttle buses required to access town	Yes	No	No	Yes	No
Distance from ship to bus pick-up point	200 m	100 m	200 m	100 m	100 m

(continued)

Cruise seaports	Klang	Kuantan	Penang	Bintulu	Kota kinabalu
Name of nearest airport	KLIA and KLIA 2	Sultan Ahmad Shah Airport	Penang International Airport	Bintulu Airport	Kota Kinabalu International Airport
Distance to airport	75 km	36 km	20 km	28 km	Terminal 1 - 8 km Terminal 2 - 7 km
Approximate travelling time to airport (without traffic)	60 min	40 min	40 min	30 min	15 min
Guaranteed berthing for cruise ships	Yes, prior notice	Yes, prior notice	Yes, prior notice	No	Yes, prior notice

Sources: Ministry of Tourism and Culture (2016); Compiled by Authors

Table IV.

Support from intra-regional economic corridors

There are four major freight corridors in peninsular Malaysia, namely Northern, Central, Southern and East coast freight corridors. Each freight corridor incorporates several economic development plans initiated by the Malaysian government. Each development plan is designed for a specific region, i.e. North, Central, South and the East coast of peninsular Malaysia (Table V).

In the North corridor, Penang Port is the main gateway to serving all regions of northern peninsular Malaysia, including Southern Thailand. To connect these hinterlands, there are two main dry ports involved, namely, Padang Besar Cargo Terminal (PBCT) and Ipoh Cargo Terminal (ICT), which are located 150 km and 181 km from Penang Port, respectively (Chen *et al.*, 2015). This corridor uses multimodal transportation connecting different transport nodes and hinterlands, including road and rail, in particular the Malaysian Thailand land bridge (MTL), thereby providing substantial benefits in freight transportation efficiency (Ngah, 2010). Rail links in this freight corridor contribute almost 80 per cent of the container transportation in the nation (Malaysian Railway, 2016). However, because of having no railway linkage of passenger jetty at Kuala Kedah, this has limited the potential of Kuala Kedah to develop as significant tourism seaport hub. In addition, the northern freight corridor also includes Penang Island. Other than by ferry, the link connecting Penang Port to Penang Island is the Penang Bridges. With the opening of the

Economic corridors	Northern corridor	Central corridor	Southern corridor	East coast corridor
Regional development plan	Northern Corridor Economic Region (NCER)	Central Corridor	Iskandar Malaysia (IM)	East Coast Economic Region (ECER)
Government authority	Northern Corridor Implementation Authority (NClA)	Government of Malaysia	Iskandar Region Development Authority (IRDA)	East Coast Economic Region Development Council (ECERDC)
Started (year)	2007	1991	2006	2007
Objective (s)	World-class economic region	Equitable growth and economic development	Sustainable metropolis of international standard	A developed region-distinctive dynamic and competitive
Radius of coverage	17,816 square kilometres	15,033 square kilometres	22,874 square kilometres	66,736 square kilometres
State of coverage	Penang, Kedah, Perlis and Perak	Negeri Sembilan, Selangor and Kuala Lumpur	Johor and Malacca	Pahang, Kelantan and Terengganu
Focus industry	Agriculture, human capital, infrastructure, manufacturing, logistic and tourism	Human capital, infrastructure, manufacturing, service sector, agriculture	Educati on, financial health care, ICT, creative industries, logistic , and tourism	Agriculture, education, manufacturing, oil, gas, petrochemical, and tourism
Expected employment (million)	3.1	9.8	1.4	1.9
Expected investment (USD billion)	55	559	118	35

Table V.
An overview of intra-region corridors in Malaysia

Source: Adapted from Jeevan (2017)

second Penang Bridge in 2014 and the expansion of lanes for the first bridge from four to six has improved the connectivity for the northern freight corridor as well as improve the number of tourists to and from Penang Island. Therefore, the development rail linkage, introduction of second bridge in Penang Island has great possibility to enhance the seaport tourism especially in Kuala Kedah and Penang Port.

The Central Corridor which has developed significantly following the introduction of the New Economic Development Policy in 1991 is the key economic development region for Malaysia (EYGM, 2014). It has been equipped with well-developed industrial parks, highways and rail infrastructure which are opportunities for effective operations of the seaports. This freight corridor is supported by the development plans NCER, East Coast Economic Region (ECER) and the Indonesia-Malaysia-Thailand-Growth Triangle (IMT-GT) which generate more freight for this corridor. Some of the attractive places at the central region such as Petronas Twin Towers, National Museum, Merdeka Square and many other places are central for tourist. Central corridor is equipped with a major seaport, Port Klang, as well as dry ports and inland clearance depots, and multimodal transportation to undertake the freight task are well equipped with road and rail transportation. Hence, all passengers from Port Klang can use these transport facilities to enjoy the view at the above-mentioned venue.

In the Southern freight corridor, the seaport PTP is the main gateway to serving all regions in southern peninsular Malaysia including Singapore. PTP is connected by three main dry ports including ICT, Segamat Inland Port (SIP) and Nilai Inland Port (NIP), with their locations ranging from 188 kilometres to 551 kilometres from this seaport (Chen *et al.*, 2015). Road and rail networks are used to undertake the freight task along this freight corridor (Humphries, 2004; Ngah, 2010). This freight corridor is connected by rail links to all hinterlands except Malacca and Singapore because there is no rail link to these regions (Chen *et al.*, 2015). Additionally, this freight corridor is equipped with the North-South Expressway which connects all states in west coast peninsular Malaysia with Singapore (PLUS, 2011). Therefore, the availability of PTP at this corridor enhances the tourist to travel from Malaysia to Singapore and vice-versa. In that case, the availability of sufficient road and rail network in southern economic corridor enhances the number of passengers from Malaysia have a great opportunity to travel to Singapore and enjoy their holidays in these two different nations.

In the Eastern Corridor, there locates some of the attractive tourist venues including Lake Chini, Teluk Chempedak and The Great Mines of Sungai Lembing, Cameron Highlands. Although extensive road connectivity is available along this corridor, the absent of rail link limits potential venues to be explored especially in Terengganu and Kelantan which are main tourist spot in this corridor. According to participants from MOT and SA:

[...] the poor coverage of rail links in this corridor left cruise terminal in Kuantan are underutilised as well as reducing the profits to this particular seaport and hindering the tourism industry to contribute significantly to Malaysian GDP. However, the development of East Coast Rail Link (ECRL) which connects all states in east coast region including Port Klang may enhance the prosperity of tourism sector in this region.

Support from inter-regional corridors

The strategic location of Malaysia presents an opportunity for involving neighbouring countries in freight corridors to amplify its economic progress. There are three (3) inter-regional freight corridors involving Malaysia, Thailand, Singapore, Indonesia and Brunei. These include the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT), Indonesia-

Malaysia-Singapore Growth Triangle (IMS-GT) and Brunei-Indonesia-Malaysia-Philippines-East Asian Growth Area (BIMP-EAGA).

IMT-GT is a sub-regional economic development plan established in 1993. Its intention is to facilitate and promote trade among the members, strengthen the infrastructure linkages to support the integration of IMT-GT sub-regions, develop human resource competencies and enhance public-private sector collaboration (IMT-GT, 2012). Almost US\$5,218m has been invested in these three countries for main sectors such as transportation, trade, agriculture, food, tourism and human resource development (Rahim *et al.*, 2014). Malaysia and Thailand use the Malaysia-Thailand Land bridge which operates two trips every two months (Chen *et al.*, 2015). As well as the land bridge system, manufacturers from Thailand also use the highway network from Padang Besar–Bukit Kayu Hitam–Penang Port–Port Klang. In Malaysia, this IMT-GT has potential to improve cross border tourist movement between Malaysia, Thailand and Indonesia. The cooperation with Thailand and Indonesia provides transport facilitation for passenger mobility across those regions. The northern region of Malaysia has strong potential to generate a high volume of tourist from this network which will be beneficial for Malaysian GDP because of its location adjacent to the southern Thailand and Indonesia. Therefore, the seaports available in this sector especially Penang Port and Port Klang have a great advantage and manage to provide significant connection for the leisure activities to the tourist in the future.

IMS-GT was initiated by Singapore in 1990 to enhance cooperation between Indonesia, Malaysia and Singapore. This collaboration has invested almost US\$27.7m in these three countries, especially for the development of transportation equipment (Sparke *et al.*, 2004). This cooperation has generated more investment in southern Malaysia whereby many investors invest in industrial estates, improving industrial facilities, and encouraging the dispersal of new industries to rural areas. Moreover, the establishment of IMS-GT has improved the availability of quality labour by developing a new training institute, increased transport infrastructure, enhancing tourist activities, and streamlined the customs procedures for freight transportation between these three regions (Humphries, 2004). Currently, Malaysia and Singapore are connected via the North-South Highway First Link and the Malaysia-Singapore Second Link respectively (PTP, 2015). In future, the development of the Singapore-Kunming Rail Link will be the pioneer project which will improve rail freight connectivity between Malaysia and Singapore (ASEAN, 2011). IMS-GT attempts to harmonise and simplify the rules and regulations relating to land laws, labour market policies, cross border procedures and other formalities to improve and increase the attractiveness of these regions to foreign investors (Humphries, 2004; Sparke *et al.*, 2004). In addition, seaport such as PTP and Port Klang including Kuantan Port may take a great advantage to improve their tourism services in their particular seaports.

BIMP-EAGA is the current collaboration between Brunei, Indonesia, Malaysia and the Philippines which was initiated by the Philippines in 1992 (Annuar, 1994). The main focus of this collaboration is on transport and shipping services, tourism and fisheries cooperation (Annuar, 1994). Therefore, the mechanism for the BIMP-GT implementation is by facilitating free movement of goods within the participating countries, sharing common facilities and implementing appropriate economic development activities in each region (Ishak and Kasim, 2004). Moreover, the availability of Pantai Tanjung Batu, Similajau National Park, Kuan Yin Tong Temple and many other places (Ministry of Tourism and Culture, 2016) at Bintulu and Kota Kinabalu provide attractions for domestic and international tourist. In that case, seaports at east Malaysia including Bintulu and Kota Kinabalu seaports may take additional advantages from this economy growth to improve the tourism sectors in east Malaysia. A participant from MD indicates that “the availability

of attractive places will be a great boost for the emergence of seaport tourism activity and increasing fascinating roles of seaports in our country”.

Connections between Anyport model, seaport regionalisation and tourism

The Anyport Model indicates three major stages of seaport development including setting, expansion and specialisation (Bird, 1984). At the setting stage, a seaport depends mostly on geographical factors. It is a key element of urban centrality and is classified as operating in isolation and performing as an interface between hinterland and foreland (Notteboom, 2000). During seaport expansion, the hinterland connection starts to develop to ease the proportional growth in maritime traffic. The integration of rail links with the seaport terminals are required to enable the seaport to access the inland area (Bird, 1984). During seaport specialisation, numerous opportunities are created for other users to use the seaport’s facilities such as housing and commercial development (Bird, 1984). The outcomes from global containerisation and intermodalism result in seaports becoming dynamic leading nodes in distribution networks. Notteboom and Rodrigue (2005) added an additional stage “regionalisation” into the Anyport Model, and it has attracted the role of inland terminals in seaport development (Monios and Wilmsmeier, 2011). Seaport regionalisation is the development of a seaport incorporating the support of a freight distribution centre, and it ultimately leads to the formation of a regional load centre network.

Seaport regionalisation represents a different dimension in seaport development whereby the efficiency of a seaport system is determined by the integration of the inland freight distribution system. Since a seaport represented a physical and functional link between the logistics and transportation networks, it needs to meet certain requirements in intermodal and landside links such as to access infrastructure and connectivity with the economic system of the hinterland (Sanchez and Tichel, 2005). The existence of an intermodalism via dry port provided infrastructure and connectivity from seaports to hinterlands. It also improved the physical and functional link between transportation networks in various locations. The evolution of Anyport model and regionalisation indicated that intermodalism is the key component which distinguishes between these two stages. Moreover, the availability of intermodalism also encourages the development of multimodal transportation along the economic corridor. However, in this region, the level of regionalisation is not even compared to east and west coast of peninsular Malaysia. This has been evident by the absence of interstate and intrastate railway linkages in peninsular and east Malaysia. Therefore, the limited coverage of seaport regionalisation prevents the land transportation options to the passenger/tourist to enjoy the beauty of Malaysia. In addition to that, a participant from SA reveals that “limited access to the inland from seaports limit the progress of tourism sectors and preventing the development of seaport tourism industry in Malaysia”. Based on this statement, it is understandable that limited transport connectivity between inter and intra states affecting the complementary, transferability and intervening during the accessibility from seaport towards inland and vice versa.

In general, seaport regionalisation comprises six main themes including innovative, accessible, safe, sustainable, workable and enterprising (Notteboom, 2006). In that case, introduction of tourism activity in seaports enhances the concept of sustainability, innovative and enterprising concept during its operation. However, the limitation of Malaysian seaport especially on railway and road connectivity to and from seaport and hinterland reduces the impact of Malaysian seaport tourism activities on these three main themes. Hence, to ensure the effectiveness of seaport regionalisation on each theme, the connectivity to and from seaports need to be improved.

Implication and conclusion

This paper has revealed the potential capacity of Malaysian seaports to become hub for tourism activity. Therefore, four main components including cruise activities, support from intra-region and inter-region economic corridors as well as the evolution of seaport regionalisation have been selected to evaluate the capacity of Malaysian seaport to be hub for seaport tourism. Firstly, underutilised condition of Malaysian seaports provides a great potential to channel the cruise activity towards the seaports. Through the inter-port cooperation between commercial seaport and cruise terminals as emphasised in the Malaysian [Port Authorities Act \(2006\)](#), the seaport capacity, space as well as the facilities can be optimised to increase the number of cruise passenger in each terminal. Secondly, the existence of intra-region economic corridor which consists of northern, central, central and east coast economic corridor provided linkages of seaports to and from hinterland in each corridor. Therefore, the capacity of seaports to include another function in their cluster which is tourism can be executed via the linkages of seaport and hinterlands.

There are significant advantages and disadvantages gained by incorporating tourism in the seaport system. Firstly, this incorporation may improve the efficiency of the underutilised berths in Port Klang, Johor, Kuantan or PTP port in Malaysia. Seaports can raise funds by charging for berths in ports or at regulated anchorages or providing services for the cruises and passengers. In wider terms, it can be said that with the assist of tourism activities, there will be more opportunities for finding employability and making the profit in the areas nearby the ports. Hence, the innovation of seaport adapting the tourism via spatial interaction model may increase the profitability of the seaports as well as the attraction of these seaports among their clients from either inland or foreland.

However, on the contrary, tourism also can bring some predicaments for seaports. First, negative influence is reflected in excessive crowds caused by many unregulated vessels on the water side or unregulated vehicles on the land side. Consequently, the quality of environment around and inside the seaports could be affected and polluted. The pollution can be generated from unusually crowds in the ports and the waste amount will be increased if the tourists are unaware. In addition, the noise pollution will be high due to the unusual appearance of the visitors. Another effect is that while the port has huge space with containing many bulky equipment and dangerous operating activities requiring high safety attention, the appearance of the tourists may compromise the maintenance and safety at the port. Therefore, to overcome the disadvantages that affect the incorporate the tourism in the seaports, the government should develop specific, detailed policies focussing on tourism.

Currently, the contribution of tourism activities on Malaysian GDP is not significant. Hence, the infusion of tourism in the seaport operation may provide a great contribution on Malaysian revenue. Therefore, the introduction of seaport tourism as a new cluster in Malaysian maritime sector may develop a new insight for our economic development. As a platform for future research, the impact of seaport tourism in Malaysian economy and the preparation of Malaysian seaports to develop a new cluster which labelled as seaport tourism are worth to be explored. In conclusion, the incorporation of tourism in seaport activities may provide a new dimension of development especially in regional, seaport, infrastructure, connectivity development which will be channelled to the national economic growth.

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