



温州肯恩大学
WENZHOU-KEAN UNIVERSITY

**Blue economy and the promotion of coastal city economic development: An examination
of coastal tourism**

In Partial Fulfillment of the Requirements
for the Bachelor of Science in Global Business

by

ZHANG Haoming

1025976

May, 2020

ABSTRACT

The objective of this paper is to explore the relationship between blue economy and coastal economic growth, using coastal tourism as an example. Blue economy is now a fast-developing economy which has caught great concentration from investors and governments. As one of the major driving factors of blue economy, coastal tourism becomes more and more important for coastal cities. The quantitative research method in the paper indicates the great consumption that tourists made during their tour, which would sharply promote the growth of coastal economies. Final result shows the tourists` consumptions will have a positive impact on the development of coastal economies. Several limitations that exist in the paper (such as geography impacts and size of the quantitative method) suggests for further comprehensive and sophisticated investigations.

Keywords: Blue Economy; Coastal tourism; Coastal economic zone; Coastal recreational activities

INTRODUCTION

Twenty-first century is a century which the ocean will be used as a great source for economy development (Lu, 2014). In the age when the ocean has been regard as the common priceless heritage of human being (Pardo, 1984), the great undertaking of developing sea-related economies in a sustainable and valuable way has become a generally welcomed strategy around the globe, especially those countries who has long continental coast and large sea area (Lu, 2014). For instance, China, Russia, United States and Australia.

Since early 2000s, the blue economy is attracting more attentions from researchers and fast-developing countries because its high investment potential and opportunity to promote economic growth. Vary from marine economic, blue economic is an open and pluralistic economic, in other worlds, it is more sustainable, environment friendly, technology-based and connotative (“From Marine Economy to Blue Economy,” n.d.). According to Jennifer J. Sliver, there are several reasons why “blue economy” is so attractive to government officers and researchers, one of the main reason is the absolute position that ocean has played in our planet, more than 70% coverage to the Earth (Silver, Gray, Campbell, Fairbanks, & Gruby, 2015). Moreover, not all of the ocean space is under national jurisdiction, there are enormous amount of resources shared in common, which has provided an opportunity for inland countries or countries that does not have enough space to develop blue economy (Silver et al., 2015).

As one of the largest oceanic countries in the world, China has the great advantage and opportunity of developing blue economy (Gu & Wong, 2008). When the long coastline combined with the largest population in the world, it makes China a great nation for developing coastal tourism (Liu, Heilig, Chen, & Heino, 2007). Coastal tourism has contributed a lot in developing the blue economy, each year, there are tens of thousands of tourists from all over the world come to visit Chinese coastal cities, and they would create a huge promotion on the development of coastal economic. Chinese long continental coast automatically created many coastal cities that are famous for tourism. For instance, Qing Dao, Qing Huangdao, and San Ya, each of those cities are popular to tourists around the world.

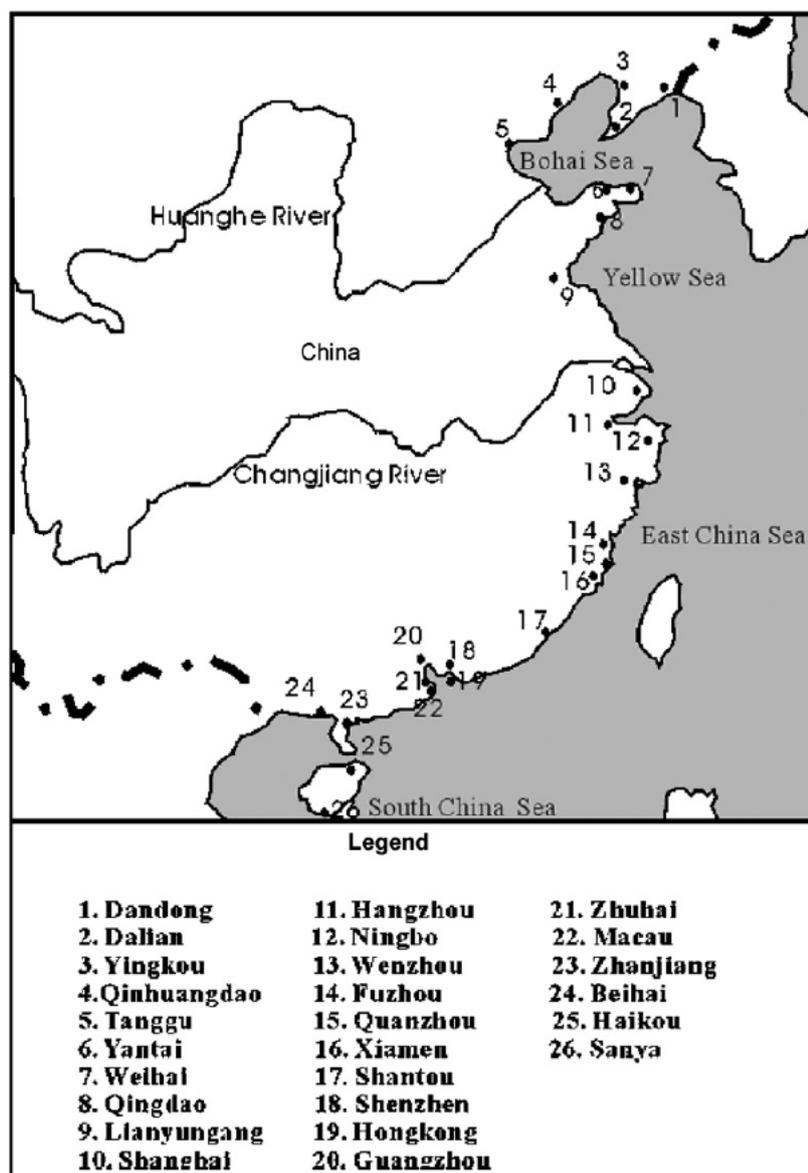


Figure 1. Twenty-six major coastal cities in P.R. China.

Cited from "Coastal zone management focusing on coastal tourism in a transitional period of China"

According to the 2018 China Coastal Tourism Passenger Flow Big Data Report, from Mar. 2017 to Feb. 2018, there are about 1.06 billion tourists visit Chinese coastal cities (Yi liang, n.d.). Their destination has covered 9 provinces, more than 50 coastal cities and created enormous amount of regional wealth. Majority of the tourists chose to visit cities locate along Chinese South coastline, such as Sanya and Guang Dong. There is an obvious seasonal preference, summer and winter visitors are much more than people who visit coastal cities during spring and late autumn.

LITERATURE REVIEW - BACKGROUND

Blue Economy

The phrase “blue economy” is becoming more of a common used jargon in the past decades (Garland, Axon, Graziano, Morrissey, & Heidkamp, 2019). According to professor Bari Abdullahel, the blue economy can be thought as economies which aims to utilize profits come from marine resources to the maximum degree (Bari, 2017). In other words, there is a possibility that blue economy could bring more economic development opportunities to nations which are surrounded by the ocean, such as China, United States, Bangladesh or South Asian countries (Bari, 2017).

The blue economy was first mentioned by Dr. Gunter Pauli in his book published in 2010 (Sakhuja, 2015). In the book, *The Blue Economy: 10 years, 100 innovations, 100,000 jobs*, the blue economy was firstly launched as a project which try to explore “100 of the best nature-inspired technologies” that could promote world economy’s growth (Pauli, 2010). The book indicates that many of the natural-inspired innovation are attractive, fascinating and have higher potential to grow, but many of them are neglected by the public. Thus, Pauli and his team have integrated these innovations with real world economies in the book, which hopes to give a sustainable view to its readers.

However, despite from the enormous amount of scholarly activities that blue economy have spawned, the definition of the blue economy still remains vague (Garland et al., 2019). Because there are plenty of influential factors exist while narrowing the range of blue economy. Influential factors such as “space, place, scale, and power relations” will all have the possibility to affect the processes of development and create regional differentiation (Garland, Axon, Graziano, Morrissey, & Heidkamp, 2019).

The current situation shows that human beings are putting too much pollution into the ocean, and at the same time requesting too much good stuff from it (Spalding, 2016). According to Patil, the economy value from ocean is largely consisted by the natural resources and the ecosystems located inside the ocean (Patil, 2016). Thus, there is an urgent need for human beings to choose a more sustainable way and transform the original ocean or marine economy into the blue economy (Patil, 2016).

Coastal Tourism

Coastal region is widely known as the area with high usage of natural resources and fast economy developing rates, also it is the best place for doing investment in tourism (Lee & Oh, 2018) In the year of 2014, tourism was firstly listed as one of the 17 goals for sustainable development in United Nation’s Post 2015 development agenda (Xu & Gu, 2018).

Recently, developing coastal tourism programs are becoming more and more popular among cities/regions that are surrounded by ocean, such as Tai wan (Wang, Lee, Château, & Chang, 2016). Nowadays, coastal tourism has become one of the key players in the game of coastal economic growth, entrepreneurs and local governments are paying more attention to this fast-developing industry (Cortés-Jiménez, 2008). Because every year ocean is attracting thousands of visitors around the world, which would automatically bring the fresh blood for coastal tourism to grow. Besides, a well-organized and sustainable tourist program will create a lot of regional economic wealth. At the meantime, the government needs to take response to keep a balance between sustainable coastal tourism and regional environment protection (Wang et al., 2016).

Coastal Recreational Activities

Coastal area seems have a mysterious attraction to people around the globe (Lazarow, 2007). According to Lazarow, there are several reasons, which might have changed from time to time (2007), beautiful sceneries, sea provides enormous amount of fresh seafood, demand for real estate and most importantly, is the wide range of coastal recreational activities that tourists can enjoy at coastal cities.

Honestly, recreational activities which tourists can do at coastal region seems to be countless. There was a survey done in Western Australia aiming to justify the factors that would influence the development of coastal ecosystems (Priskin, 2003). In the survey, Priskin has provided a wide selection of coastal recreational activities, those activities include but not limit as: swimming, boating, fishing, diving, ship traveling, surfing, sandboarding, sail boating, four-wheel driving, walking, camping, horse-riding and sightseeing (Priskin, 2003).

Additionally, there are plenty of influencing factors that might affect tourist choice of recreational activities. For instance, particular regulations from government, individuals' taste, their budget plan or characteristics of the place they visit (Paudel, Caffey, & Devkota, 2011).

Coastal Regional Economic Zone

Most of the coastal regional economic zones are established by the government. Majority of them are “substantial urban agglomeration” that consist of small natural port cities, such as the Shen Zhen special economy zone in China (Liu et al., 2007).

China is a large nation which has approximately 300,000 square kilometers of sea area, and its coastal line stretches for more than 18,000 kilometers (Gu & Wong, 2008). There is no doubt that China has a great advantage of developing coastal economies.

According to Gu Ming, since late 1970s, China has been establishing and managing its coastal economic zones (2008), and tourism is one of the major elements of developing regional economies.

STATEMENT OF HYPOTHESIS

The objective of the research is to determine whether blue economy could promote regional economic growth, using coastal area and coastal tourism as an example. It has been divided into two major questions list as follows:

Research Question (RQ):

- 1. What do Chinese people do during their visit to seaside cities/coastal regions (could either be investments or recreational activities)**
- 2. How will coastal tourism promote regional wealth creation**

Based on the existing body of knowledge reported above, it is possible to estimate that coastal tourism is one of the key wealth promoters in the blue economy. And is reasonable to believe that there is a positive relationship between blue economy and coastal economic growth.

Thus, following hypotheses are derived below.

H1: People with higher monthly income are more likely to make investments in real estate.

H2: Developing blue economy such as coastal tourism will have beneficial impacts on regional economy development, especially for those coastal cities.

People with higher monthly income tends to have larger amount of disposable income. While nowadays, real estate projects in Chinese coastal area are becoming more of a good choice for investment. For instance, the housing price in Sanya and Qingdao has been increasing since 2010s. Therefore, purchasing a house and rent it to home stay agencies (Airbnb) or tourists becomes a possible way of doing investment.

METHODOLOGY

Throughout the analysis, a list of activities that people will do during their visit at coastal region will be provided (i.e. real estate investments, ship traveling, cruise ship sail boating).

Collection and Analysis of Primary Data

This research collects primary data from travel agents inside and outside of China, such as their annual reports collected. During data analyzing process, indexes such as amount of people visit coastal area, the amount of GDP (Gross Domestic Product) that tourists contributed and travelers` purchasing power are analyzed based on a global basis. Secondary data will be mainly gathered from related researches or previous surveys. For instance, researches that are based on coastal recreational activities or its influencing factors.

After closely analyzed both secondary and primary resources, a survey is created. Main question of the survey is “How likely are tourists to engage in coastal recreational activities”. Moreover, several questions focusing on the relationship between coastal tourism and coastal economic growth have been created and included in the final results.

Instrumentation Design (Quantitative Method)

The survey has been designed based on the list of coastal recreational activities and related researched that have done before (Yuan, Bare, Johnson, & Saberi, 2014). There are three main focus in this survey: activity, destination and time. Activity stands for the type of recreational activities that tourists engage in, destination stands for city or particular sea area that tourists choose as their destination and the time stands for when tourists choose to visit. The survey will be distributed through social media such as Wei Chat or QQ, minimum of 200 responses will be collected.

Moreover, Likert scale was applied in the survey. It would help test takers to explain their thoughts in a more convenient and comprehensive way. According to Joshi Ankur, it is one of the most basic and frequently used analyzing tools in both academic and scientific researches (Joshi, Kale, Chandel, & Pal, 2015).

1. Survey Question on what kind of activities do tourists engage while visiting coastal area (during summer/during winter)

Eight options were presented as possible responses for the question and survey takers are asked to rank the likelihood of engaging in these recreational activities (Likert Scale):

- Real estate investment
- Ship traveling
- Sail boating/Surfing
- Diving
- Fishing
- Swimming
- Sightseeing

- Beach Sports (Sun Bath; beach volleyball)

Types of recreational activities that tourists can do at coastal area varies (Priskin, 2003). There are a lot of influencing factors while tourists decided their recreational activities. City that tourists visit, season that tourists choose, the size of the tourist team, the average age of the team and whether children are included in the team all influence the kind of recreational activities they finally choose.

Moreover, the purpose of separating business-related career from other careers is to identify whether people with business related jobs are more willing to do investments on real estate programs.

Real estate investment is specially designed for people that are located in the upper level of the society. In China, more and more businessmen are trying to do investments in the market of real estate. It is a good investment plan to buy an apartment which is located near the sea and then rent it to an intermediary (such as Airbnb) to earn interest. In some occasions, the interest from renting apartments is much higher than the interest that comes from the bank.

2. Survey Question on when do people choose to visit seaside area

Five alternatives were provided to measure the factor of seasonal preference, survey takers are asked to rank their likelihood of their choice of time:

- During Spring
- During early summer (From May to July)
- During Summer (From July to August)
- During Autumn (From August to October)
- During winter

Generally, people prefer to visit coastal area during summer, but there is a possibility that some of the travelers choose to visit coastal area during winter or autumn, for instance, during Chinese New Year or National Day. This question is designed to clarify the time that different people choose to visit coastal cities.

3. Survey Question on how many times that people would travel to a coastal city during the year

The more tourists travel to the coastal cities, the more GDP they will contributed and more wealth they would create. This question is designed to measure the frequency that people travels to the coastal region.

4. Survey Question on would people/travelers prefer to migrate to seaside area

Survey takers are asked to illustrate the possibility that they would migrate to the coastal cities:

A Likert scale will be used in this question, this question is specially designed for those people that do not live/work in a coastal city. If tourists migrate to coastal cities, then there will be a positive effect on the coastal economic zone.

5. *Survey Question on which sea area would people prefer when they visit coastal area*

Four Chinese sea area were provided to the survey taker to measure the factor of regional preference:

- East China Sea
- South China Sea
- Huang Hai
- Bo Hai

The long continental coast that China has provided a wide selection for tourists around the world. It is not appropriate to list all the potential destination in a question. Therefore, those coastal cities are divided into four sea areas that China has, it is easier for researchers to analyze the regional difference between tourists.

6. *Survey Question on which kind of accommodation that tourist will choose during visit*

Five kinds of accommodation are listed in the question to measure the factor of accommodation:

- Resort
- Homestay
- Hotel
- Already bought an apartment
- Stay in relative`s or friend`s home

If the fundamental facilities are comprehensive or sophisticated enough to meet people`s needs, the city would attract more tourist during the year. The type of accommodation they choose will directly affect the economic. The city`s economic would develop faster if more and more tourist chooses to stay in hotel or resorts.

7. *Survey Question on the length of tourists` trips*

Four scales are provided in the question to estimate the average time that tourist stay:

- Within 24 hours
- 1 to 2 days

- 3 days to a week
- More than a week

It is obvious that the longer a tourist stays the more value he/she would create. Therefore, this question is created to estimate the duration of travelers stay in coastal cities.

ANALYSIS / RESULTS

A total of 201 online survey questionnaire responses were collected. Majority of survey takers come from southern part of China, along with few survey takers come from foreign countries such as U.S or Australia. Their basic information such as gender and age group are integrated and listed in the Table 2 below. Respondents aged from 18 to 25 has become the major age group in this survey 120 out of 201 survey takers (59 females and 61 males).

Age Groups	Female	Percentage	Male	Percentage
<18	4	2.0%	5	2.5%
18-25	59	29.4%	61	30.3%
26-30	16	8.0%	22	10.9%
31-40	13	6.5%	8	4.0%
41-50	6	3.0%	5	2.5%
>50	1	0.5%	1	0.5%

Table 2: Gender integrate Age Group

Figure 3 shows the career of participants who respond the survey, majority of the survey respondents are students (57.21%) and the respondents with education related jobs

(17.41%), nearly 10% of the respondents' job are business related.

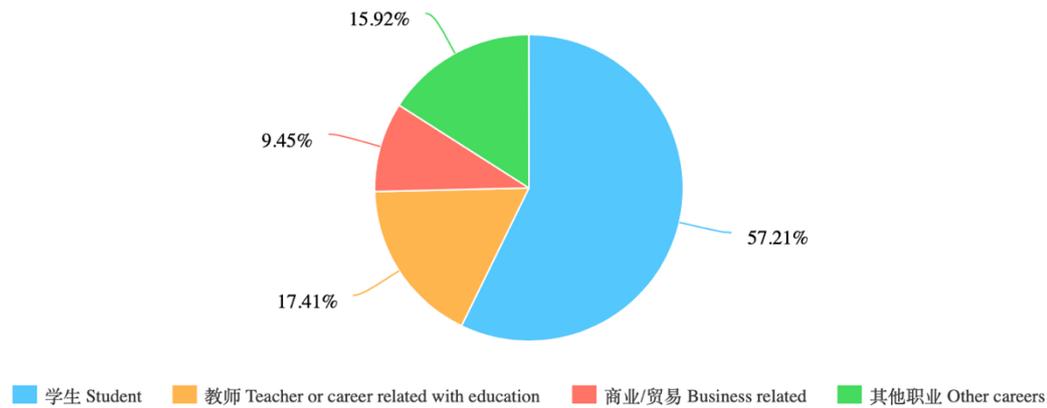


Fig.3 : The career of survey takers

Table 4 shows different season that respondents choose to visit coastal cities, scaled from Very not likely (1) to Ver Likely (5). Season are listed from spring to winter, while summer was divided into early summer (IX3) and late summer (IX4). Therefore, result shows that majority of respondents choose to travel to coastal cities during late summer (From July to August).

Descriptives					
	IX1	IX2	IX3	IX4	IX5
Mean	3.23	3.55	3.79	3.35	2.91
Median	3	4	4	4	3
Minimum	1	1	1	1	1
Maximum	5	5	5	5	5

Table 4 Descriptive analysis of respondents' seasonal preference

Table 5 indicates the different sea area (Bohai, East China Sea, South China Sea and Yellow Sea) that respondents choose to visit. It indicates that the South China see is preferred by majority of participants.

Descriptives				
	RX1	RX2	RX3	RX4
Mean	3.08	3.57	3.83	3.18
Median	3	4	4	3

Table 5: Descriptive analysis of respondents' geography preference.

A reliability analysis is done for the ninth and tenth research question (which season does tourists choose to visit and which sea area do they prefer), as Table 6 shown below. The relationship between those questions are reliable, which means there is a relationship between when and where respondents choose to travel. Since South China sea is more attractive to Chinese travelers, it tends to be the region that has more investment opportunities.

Scale Reliability Statistics	
Cronbach's α	
scale	0.813

Table 6a: The Reliability Analysis of when and where people choose to visit coastal cities.

	mean	sd	Cronbach's α
IX1	3.23	1.18	0.800
IX2	3.55	1.15	0.785
IX3	3.79	1.21	0.782
IX4	3.35	1.13	0.777
IX5	2.91	1.27	0.804
RX1	3.08	1.10	0.803
RX2	3.57	1.05	0.795
RX3	3.83	1.12	0.801
RX4	3.18	1.10	0.801

Table 6b: The mean and standard deviation of when and where people choose to visit coastal cities.

The following table shows the confirmatory factor analysis of which kind of coastal recreational activities are preferred, using the Likert scale. There are 8 activities listed in the question (from XT1 to XT8), we find out that there might need a further improvement to the survey question since its CFI (0.896) and TLI (0.816) ratio is relatively low.

Factor Loadings					
Factor	Indicator	Estimate	SE	Z	p
Factor 1	XT1	0.345	0.0923	3.74	<.001
	XT2	0.657	0.0722	9.10	<.001
	XT3	0.826	0.0665	12.41	<.001
	XT4	0.752	0.0706	10.65	<.001
	XT5	0.733	0.0800	9.17	<.001
	XT6	0.683	0.0821	8.32	<.001
	XT7	0.502	0.0724	6.93	<.001
	XT8	0.634	0.0809	7.84	<.001

Table 7a: the confirmatory factor analysis of survey question thirteen

Fit Measures				
CFI	TLI	RMSEA	RMSEA 90% CI	
			Lower	Upper
0.869	0.816	0.122	0.0943	0.150

Table 7b : the confirmatory factor analysis of survey question thirteen (CFI, TLI ratios)

Figure 8 shows the type of accommodation that respondents usually choose. Unsurprisingly, homestay (32.34%) and hotel (31.84%) is the major type of accommodation chose by respondents. However, there are some respondents choose to stay in the resort because it is more convenient but might be more expensive than hotel or homestay.

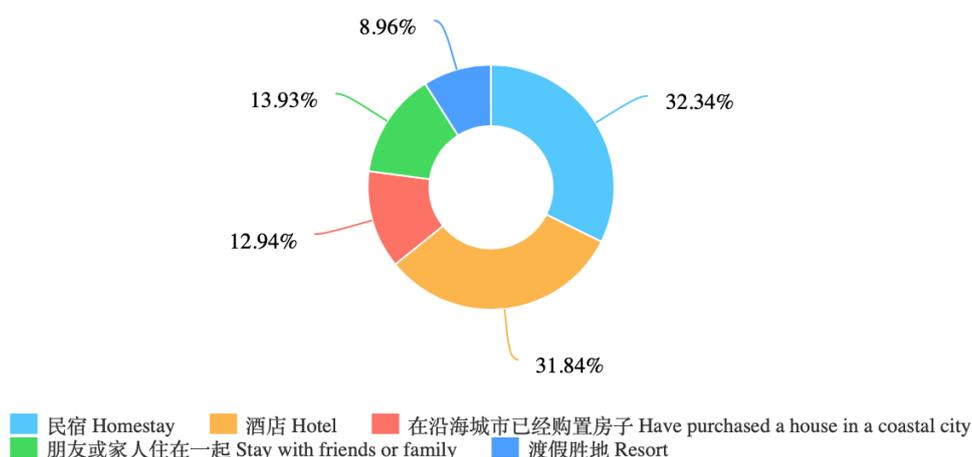


Fig.8: The type of Accommodation selected by the respondent during their trip

Figure 9 is cited from the 2018 China Coastal Tourism Passenger Flow Big Data Report, it indicates Chinese tourists' purchasing power, divided by four different sea areas.

(Dark blue indicates Bohai area, light blue indicates Yellow Sea, grey stand for East China Sea and yellow stand for South China sea)

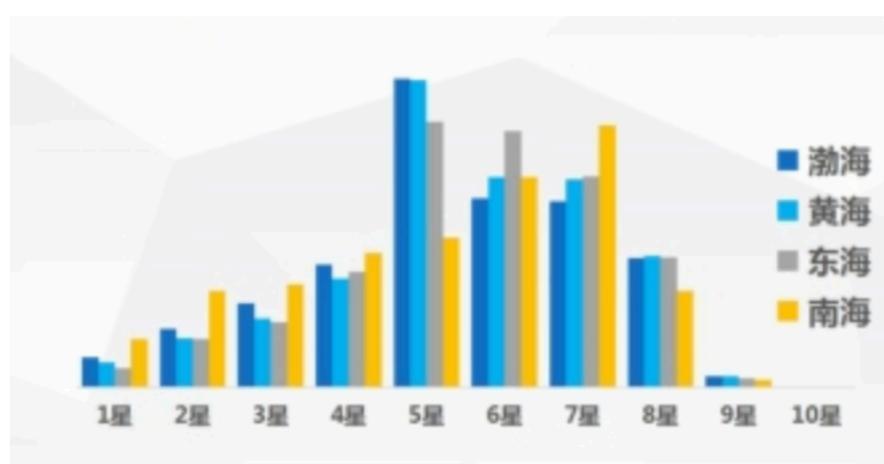


Fig.9: The purchasing Power of tourists (ranked by stars and categorized by sea areas)

Cited from 2018 China Coastal Tourism Passenger Flow Big Data Report

As the previous data shows, the South China Sea is more preferred by tourists, therefore, its purchasing power is relatively higher, especially in high star levels

FINDINGS

It turns out that tourists with business-related jobs are more willing to make investments in real estate projects. Average of all respondents is 2.68 while average business-related people is 3.26, scaled from 1 to 5. People are more willing to travel to coastal cities during July and August, South China Sea is the most selected destination among four Chinese sea areas. Besides, the higher a respondent earn monthly, the stronger purchasing power that she/he would has. Moreover, people who lives or work in the coastal cities tends to travel more frequently to coastal cities than those work in in-land cities. However, the duration of their trips is shorter than respondents who work in-land. Finally, results from both big data reports and the survey indicates that there is a positive relationship between coastal tourism (blue economy) and the coastal regional economic growth.

LIMITATIONS AND FUTURE RESEARCH

According to Lynne M. Connelly, it is of vital importance for a research paper to include its limitations (2013). In this paper, even though the final result shows that the blue economy would promote economic growth in coastal cities. But there are some limitations exist in this research paper, which could constrain and affect its final results.

First of all, according to the data collected from the survey, the majority of the survey respondents come from Zhejiang Province, which might not be representative for Chinese tourists in other provinces. For instance, tourists who lives in Ningbo would not likely to choose cities in Bohai area as their destination.

Second limitation is that nearly 80% of survey respondents are students, they have not become economic independent yet. Therefore, the limit budget might limit their purchasing power or visits to coastal cities.

Finally, since the majority of respondents are from Zhejiang and Hebei province, future studies can select a larger scale and more complex dataset to investigate the relationship provided above.

REFERENCES

- Bari, A. (2017). Our oceans and the blue economy: Opportunities and challenges. *Procedia Engineering*, 194, 5-11.
- Connelly, L. M. (2013, September 1). Limitation section. Retrieved October 29, 2019, from MedSurg Nursing website:
<https://link.galegroup.com/apps/doc/A349112105/AONE?sid=lms>
- Cortés-Jiménez, I. (2008). Which type of tourism matters to the regional economic growth? The cases of Spain and Italy. *International Journal of Tourism Research*, 10(2), 127–139. <https://doi.org/10.1002/jtr.646>
- From Marine Economy to Blue Economy. (n.d.). Retrieved October 13, 2019, from <https://wenku.baidu.com/view/4ef9de21767f5acfa0c7cd5a.html>
- Garland, M., Axon, S., Graziano, M., Morrissey, J., & Heidkamp, C. P. (2019). The blue economy: Identifying geographic concepts and sensitivities. *Geography Compass*, 13(7), e12445. <https://doi.org/10.1111/gec3.12445>
- Gu, M., & Wong, P. P. (2008). Coastal zone management focusing on coastal tourism in a transitional period of China. *Ocean & Coastal Management*, 51(1), 1–24. <https://doi.org/10.1016/j.ocecoaman.2007.05.008>
- Joshi, A., Kale, S., Chandel, S., & Pal, D. (2015). Likert Scale: Explored and Explained. *British Journal of Applied Science & Technology*, 7(4), 396–403. <https://doi.org/10.9734/BJAST/2015/14975>
- Lazarow, N. (2007). The value of coastal recreational resources: A case study approach to examine the value of recreational surfing to specific locales. *Journal of Coastal Research*, 12–20. Retrieved from JSTOR.
- Lee, J. S.-H., & Oh, C.-O. (2018). The Causal Effects of Place Attachment and Tourism Development on Coastal Residents' Environmentally Responsible Behavior. *Coastal Management*, 46(3), 176–190. <https://doi.org/10.1080/08920753.2018.1451728>
- Liu, X., Heilig, G. K., Chen, J., & Heino, M. (2007). Interactions between economic growth and environmental quality in Shenzhen, China's first special economic zone. *Ecological Economics*, 62(3), 559–570. <https://doi.org/10.1016/j.ecolecon.2006.07.020>
- Lu, Y. (2014). Circular Economy Development Mode of Coastal and Marine Areas in China and its Evaluation Index Research – The Example of Qingdao. 10.

-
- Pardo, A. (1984). Third world lecture 1984. *Third World Quarterly*, 6(3), 559–572.
<https://doi.org/10.1080/01436598408419785>
- Patil, P. G. V., John Diez, Sylvia Michele Roberts, Julian Singh, Asha. (2016). Toward a Blue Economy. <https://doi.org/10.1596/25061>
- Paudel, K. P., Caffey, R. H., & Devkota, N. (2011). An Evaluation of Factors Affecting the Choice of Coastal Recreational Activities. *Journal of Agricultural and Applied Economics*, 43(2), 167–179. <https://doi.org/10.1017/S1074070800004144>
- Pauli, G. A. (2010). *The Blue Economy: 10 Years, 100 Innovations, 100 Million Jobs*. Paradigm Publications.
- Priskin, J. (2003). Tourist Perceptions of Degradation Caused by Coastal Nature-Based Recreation. *Environmental Management*, 32(2), 189–204.
<https://doi.org/10.1007/s00267-002-2916-z>
- Sakhuja, V. (2015). Harnessing the Blue Economy. *Indian Foreign Affairs Journal*; New Delhi, 10(1), 39–49.
- Silver, J. J., Gray, N. J., Campbell, L. M., Fairbanks, L. W., & Gruby, R. L. (2015). Blue Economy and Competing Discourses in International Oceans Governance. *The Journal of Environment & Development*, 24(2), 135–160.
<https://doi.org/10.1177/1070496515580797>
- Spalding, M. (2016). The New Blue Economy: The Future of Sustainability. *Journal of Ocean and Coastal Economics*, 2(2). <https://doi.org/10.15351/2373-8456.1052>
- Wang, S.-H., Lee, M.-T., Château, P.-A., & Chang, Y.-C. (2016). Performance Indicator Framework for Evaluation of Sustainable Tourism in the Taiwan Coastal Zone. *Sustainability*; Basel, 8(7), 652. <http://dx.doi.org/10.3390/su8070652>
- Xu, H., & Gu, H. (2018). Gender and Tourism Development in China. *Journal of China Tourism Research*, 14(4), 393–404. <https://doi.org/10.1080/19388160.2018.1539426>
- Yi liang, M. (n.d.). 2018 China Coastal Tourism Passenger Flow Big Data Report [China Tourism Academy]. Retrieved October 15, 2019, from <https://www.3mbang.com/p-1021774.html>
- Yuan, P., Bare, M. G., Johnson, M. O., & Saberi, P. (2014). Using online social media for recruitment of human immunodeficiency virus-positive participants: A cross-sectional survey. *Journal of Medical Internet Research*, 16(5), e117.