Visual Assessment on Coastal Cruise Tourism: A Preliminary Planning Using Importance Performance Analysis

S Trisutomo
Department of Urban and Regional Planning
Hasanuddin University
Makassar, Indonesia

E-mail: trisutomo2gmail.com

Abstract. Importance-Performance Analysis (IPA) has been widely applied in many cases. In this research, IPA was applied to measure perceive on coastal tourism objects and its possibility to be developed as coastal cruise tourism in Makassar. Three objects, i.e. Akkarena recreational site, Losari public space at waterfront, and Paotere traditional Phinisi ships port, were selected and assessed visually from water area by a group of purposive resource persons. The importance and performance of 10 attributes of each site were scored using Likert scale from 1 to 5. Data were processed by SPSS-21 than resulted Cartesian graph which the scores were divided in four quadrants: Quadrant I concentric here, Quadrant II keep up the good work, Quadrant III low priority, and Quadrant IV possible overkill. The attributes in each quadrant could be considered as the platform for preliminary planning of coastal cruise tour in Makassar

1. Introduction
Importance-Performance Analysis (IPA) was introduced and proposed by Martilla and James in 1977 [1]. Initially it was applied to measure the satisfaction level of the marketing condition and the behaviour of consumers. Later, this method was applied in e-Government, higher education service quality [2], health care service, service quality of administration in private universities [3], the performance of organisation or public policy [3], tourism accommodations [4], and tour guide evaluation [5].

By the times, the IPA was improved by many scholars. Huan and Beaman in 2006 criticized the method and contributed to develop the solitude for effective use [6]. Abalo, Varela, and Manzano also suggested to improve the method by seeking a formula for spreading out values derived from preference ranking [7]. Shortly, IPA was widely applied in any kind of management issues.

IPA model bases on importance and performance attributes. The term of importance is seen as view as a reflection of the relative value of various quality attributes. It also reflects the expectation of assessors. By meant of performance reflects the real condition of the objects based on perceive of assessors.
Indonesia as an archipelagic country which has more than 13,000 islands and has the second longest coastline in the world. Having a tropical climate, this country riches with many natural resources that possible to be developed as maritime tourism. Coastal cruise tour (CCT) is one the maritime tourism that the visitors cruise along the coastline and enjoy the lure of them. Moscardo in 1996, Morrison, et al. in 2003, Kim and Kim in 1996, describe that CCT is the new trend of global scale as a part of marine tourism [8][9][10]. According to them the CCT is to explore the world by using a very large vessel capable of thousands of tourists, sail the ocean between countries, so often called ocean cruise tour. The essence of this kind of tour is the exploration of the island and the ocean on a global scale. Although this country has potential coastal resources, CCT is being paid less attention by local government. This research was addressed to assess the potentials sites as the objects of CCT by applying the IPA model. It will be a preliminary planning effort to develop the CCT in Makassar.

2. Literature Review
Referring to Moscardo, Morrison, et al., Kim and Kim cruise tour is traveling down the coast, see the scene from the sea towards the land [9][10][17]. This kind of tour is very different from sea travel in general terms, which terms the beauty of the sea from the land. Conversely, coastal cruise tour is to see the sights on land from the sea. Just an example, in Sydney, Brisbane and Hong Kong, they operate opened deck vessel with a capacity of 100-150 seat, moving gently to enjoy the beautiful of the beaches. The tour creates unique sense for the tourists.

Gungor and Bozyigit urged to measure the components of the urban landscape based on the value of culture (cultural value), identity, artistic, water, historical, and heritage [11]. Sari and Darmawan suggested that the potential of a coastal tourism should have an element of interest, historical marker (historical landmark), and special attractions [12]. Butler and Waldbrook add access as one of the requirements for coastal tourism [14]. Edy (described that element of public space includes neatness, visual variety. Kher et.al suggested that the element should be assessed is the cleanliness, identity, coolness, uniqueness, beauty and convenience [15]. Furthermore, Ciftci measured the visual landscape elements beach with pollutants, landscape, natural elements (currents and waves), and the weather [16]. Based on these previous studies and related to the problem and the purpose of this research, visual objects can be classified into 3 groups: water, landscape and buildings. In the waters of the elements include sea water cleanliness, beautiful of the coast, public space. For natural elements include landscape, color harmony, panorama, freshness of atmosphere. And building elements include uniqueness, landmark, and feeling save.

Summing up, in this research the importance and performance were assessed using 10 attributes. Following are descriptions of the attributes:

(1) sea water cleanliness. The water body shows no garbage, trash, oil, and any other disposal. It also shows low water turbidity
(2) beautiful of coast. This attribute describes the nice condition of the coast
(3) public space. It indicates that availability of place that enables people to enter to come and to do any activities
(4) natural landscape means the availability of natural components such any vegetations
(5) harmony of colour means the combination of many colours
(6) panorama. Same with scenic or view
(7) atmosphere. This attribute figures out the freshness of air condition
(8) uniqueness. Unique means attractive and has differences than other, and very special
(9) landmark. This describes the availability of an attractive building
(10) feeling of save. The object provides a feeling that it was save for visitors, not endanger

All these were explained clearly to the assessors.

3. Methods
This research is a combination of quantitative and qualitative approach using IPA method. The research was focused on visual assessment of three sites i.e. Akkarena, Losari, and Paotere. Akkarena is a recreation site at the coastlines, Losari is a waterfront public space, and Paotere is a traditional
port. Those three visual objects currently are the most interesting sites among existing objects at the coast of Makassar. Fourteen persons were selected purposively as assessors, 3 from local government staffs of Tourism Agency, 4 from academicians, and 3 from local government staffs who concern with the coastal development, 2 from local persons who know well about the coastal area of Makassar, and the rest were persons who work with travel agency. Before doing the assessment, the assessors were introduced and explained the attributes. A set of questionnaires consisted of 10 attributes i.e. (1) sea water cleanliness, (2) beautiful of coast, (3) public space, (4) landscape, (5) harmony of colour, (6) panorama, (7) atmosphere, (8) uniqueness, (9) landmark, and (10) feeling save. The questionnaire was supported by a set of photos of the objects which were taken from sea in many angels; this may help the assessors to recognize three objects. Using rental speedboat, the assessors were cruising along the coastlines, approaching the three sites at 25-50 m distance away, and stopped there in about 10-15 minutes to allow assessors to enjoy and to assess the objects and surrounding panorama. Than assessors were pleased to pay careful attention to the objects, then gave the score by filling the questionnaires. To understand the objects, assessors may see the available photos of the sites. With the 10 attributes, assessors should score the importance and the performance level. The importance level showed the attributes indicates had high priority level in creating the objects, while the performance level represented the existing condition based on the view of assessors. The scoring used the Likert scale, from 1 as the lowest to 5 as the highest one. In term of performance, score 1 = means the very poor and 5 = very nice view; in term importance 1 = the worst and 5 the best one. Collected data than were analysed using IPA method through SPSS 21. To create and resulted Cartesians graph, a two-dimensions grids, importance value became the X axis and perform value became the Y ordinate. The graph was broken into 4 quadrants (Q): QI concentric here, QII keep up the good work, QIII low priority, and QIV possible overkill.

4. Result and Discussion
Makassar metropolitan is the capital of South Sulawesi Province, and holds important role as a centre of national development according to the National Spatial Planning. This waterfront city has 31 km length of coastline of Makassar Straits and this city was inhabited by 1.6 million population. Having beautiful sunset, there are many potential tourism objects site at the waterfront. Those are resources that have high possibility to be developed as cruise tour objects that could be enjoyed by visitors by cruising from the bridge of Barombong in the south side to the mouth of Tallo River in the east in the future. Sitting at the strategic point as a hub in terms of sea and air transportation, this position enables to accelerate the growth of urban development.

This visual assessment selected tree tourism objects at the coast (Fig 1). They were Akkarena, a recreation site at south side, Losari public waterfront at the downtown, and Paotere a traditional Phinisi port. Fig. 2 to 4 show pictures figuring the existing condition seen from the sea water while cruising along the coastlines.

Figure 1. Map of Coastal and The Location of Research
4.1 Description of The Sites

a. Akkarena, The Coastal Recreation Site
This recreation area is owned by private real estate of Tanjung Bunga area. The site has 5 ha open space, consists of clean coastlines, green area, open landscape, restaurant, jetty, and parking area. People are able to enjoy many activities here: swimming, boating, sailing, surfing, and diving. As seen from water side, this area provides nice panorama and colorful landscape especially during the sunset.

![Figure 2. Pictures of Akkarena recreation area](image)

b. Losari, the waterfront public space
Starting in 1998, the revitalization work was beginning by doing sheet piles construction and land reclamation. Because of very limited budget, the works were done in many phases, part by part. After taking long period of coastal reclamation and construction, in 2002 the first plaza, named Pantai Losari, was completely built. Next was Bugis-Makassar plaza in 2007 and Mandar-Toraja plaza in 2008 were built. The name of the plazas represents ethnic groups which do exist in South Sulawesi. The waterfront plazas perform many uniqueness. Pantai Losari plaza, the first spacious plaza, was completely built in 2002. It was completed with benches, big planting boxes, two sculptures of Adipura Award trophies, and a jetty for boating. Bugis-Makassar plaza was the next plaza which has been completely built in 2004. It was furnished by sculptures of becak, paraga, Phinisi traditional boat, and pepe-pepe dance. In the northern side, Toraja Mandar plaza was built in 2008. It presented white buffalo (a magic animal of Toraja custom), miniature of Toraja architecture, a dancing lady with Toraja tribe dress, and a woman with traditional woven equipment. In 2012 the Amirul Mukminin mosque, a floating mosque, and 20 sculptures South Sulawesi warriors – who fought against Dutch Colonial - were built. These are objects of religious and educative arena. Many activities also available in the water area, such boating and sailing, skiing, and just walking or watching people.

![Figure 3. Map and pictures of Losari waterfront public space](image)
The spacious public space has a clean and fresh atmosphere providing an openness and healthy feeling. As seen from water side, Losari waterfront is nice to look. Although the edge lines of the reclamation construction are looked hard and rigid, the harmony of colour among components create very nice panorama, particularly during the sunset times.

c. Paotere, the Phinisi traditional port

Since the colonial era, Makassar was known as a huge maritime port. The city is not only having and operates large and modern port in Sukarno-Hatta quay, but also has Phinisi boat port at the northern side. Hundred traditional Phinisi boats, small and large, are anchored there to load and unload commodities to the eastern part of Indonesia. The architecture of Phinisi traditional ships are interesting scene seen for from the sea side. Unfortunately, less control in discharged waste from the boats influence the cleanliness of sea water area.

![Figure 4. Map and pictures of Paotera traditional phinisi boat](image)

### 4.2 Analysis using IPA method

Table 1, 2, and 3 show the result of assessment on 10 attributes of importance and performance. Each attribute of importance and performance were score with Likert scale from 1 to 5.

| Attributes       | Mean Importance | Mean Performance | Discrepancy |
|------------------|-----------------|------------------|-------------|
| 1 Seawater cleanliness | 4.29*           | 3.97*            | -0.32       |
| 2 Beautiful of coast      | 4.14*           | 4.07*            | -0.07       |
| 3 Public space            | 3.90            | 4.14*            | 0.24        |
| 4 Landscape               | 4.05*           | 3.59             | -0.46       |
| 5 Harmony of color         | 4.00*           | 3.76             | -0.24       |
| 6 Panorama                | 3.86            | 3.62             | -0.24       |
| 7 Atmosphere              | 4.19*           | 4.21*            | 0.02        |
| 8 Uniqueness              | 3.29            | 3.38             | 0.09        |
| 9 Landmark                | 3.67            | 4.28*            | 0.61        |
| 10 Feeling save           | 4.48*           | 4.38*            | -0.10       |
| Mean                      | 3.987           | 3.940            |             |

*higher than the mean

Akkarena, a recreation area at the coast, the mean of importance score was 3.987; there were 6 attributes higher the mean i.e. (1) sea water cleanliness, (2) beautiful of coast, (4) landscape, (7) atmosphere, and (10) feeling save. In terms of performance the attributes have score higher than mean were (1) sea water cleanliness, (2) beautiful of coast, (3) public space, (7) atmosphere, (9) landmark, and (10) feeling save. Based on the mean, the real conditions of Akkarena is below the expectations of assessors.

For Losari waterfront as public space, the importance attributes which have score higher than the mean (3.488) were (1) sea water cleanliness, (4) landscape, (8) uniqueness, (9) landmark, and (10)
feeling save. For the performance assessment on the attributes (7) atmosphere, (8) uniqueness, (9) landmark, and (10) feeling save, are higher than mean. (3.274). The mean of importance was higher than the importance, means assessors had higher expectations than the real conditions.

### Table 2. Assessment of Losari

| Attributes          | Mean Importance | Mean Performance | Discrepancy |
|---------------------|-----------------|------------------|-------------|
| 1 Seawater cleanliness | 3.95*          | 2.90             | -1.05       |
| 2 Beautiful of coast | 3.24            | 2.38             | -0.86       |
| 3 Public space      | 2.71            | 3.14             | 0.43        |
| 4 Landscape         | 3.67*           | 2.31             | -1.36       |
| 5 Harmony of colour  | 3.10            | 3.10             | 0           |
| 6 Panorama          | 3.10            | 2.76             | -0.34       |
| 7 Atmosphere        | 3.10            | 3.66*            | 0.56        |
| 8 Uniqueness        | 3.71*           | 3.28*            | -0.43       |
| 9 Landmark          | 4.43*           | 4.66*            | 0.23        |
| 10 Feeling save     | 3.90*           | 4.55*            | 0.65        |

Mean 3.488 3.274

*higher than the mean

### Table 3. Assessment of Paotere

| Attributes          | Mean Importance | Mean Performance | Discrepancy |
|---------------------|-----------------|------------------|-------------|
| 1 Seawater cleanliness | 4.00*          | 3.21             | -0.79       |
| 2 Beautiful of coast | 2.81            | 2.68             | -0.13       |
| 3 Public space      | 4.95*           | 3.00             | -1.95       |
| 4 Landscape         | 2.67            | 2.04             | -0.63       |
| 5 Harmony of color   | 3.57            | 3.00             | -0.57       |
| 6 Panorama          | 3.67            | 3.07             | -0.6        |
| 7 Atmosphere        | 3.19            | 3.32*            | 0.13        |
| 8 Uniqueness        | 4.76*           | 3.21*            | -1.55       |
| 9 Landmark          | 3.38            | 3.71*            | 0.33        |
| 10 Feeling save     | 4.33*           | 3.43*            | -0.9        |

Mean 3.733 3.067

*higher than the mean

The last, Paotere the traditional Phinisi port, the attributes which have performance score than the mean (3.733) were (1) seawater cleanliness, (3) public space, (8) uniqueness, and (10) feeling save. The performance attributes have higher than the mean (3.067) were attributes (7) atmosphere, (8) uniqueness, (9) landmark, and (10) feeling save. Comparing between importance and performance, the mean of importance was higher than the performance; it means that the conditions of the Paotere was below the expectation of assessors.

This research resulted 3 Cartesian graphs (Fig 5 to 7) represented IPA of each sites. The graphs were grid into 4 quadrants as shown in Fig 5 to 7. In each graph, the 10 attributes fallen and distributed into the quadrants. Quadrant (Q) I indicate concentric here, QII keep up the good work, QIII low priority, and QIV possible overkill.
Table 4. Comparative the position of attributes in quadrants

| Sites     | QI. indicates concentric here | QII. keep up the good work, | QIII. low priority, and | QIV. Possible overkill. |
|-----------|-------------------------------|-----------------------------|-------------------------|-------------------------|
| Akkarena  | 4                             | 1, 2, 7, 10                  | 5, 6, 8                 | 3, 9                    |
| Losari    | 1                             | 8, 9, 10                     | 2, 3, 5, 6              | 7                       |
| Paotere   | 3                             | 1, 8, 10                     | 2, 4, 5                 | 6, 7, 9                 |

Note: Attributes: (1) sea water cleanliness, (2) beautiful of coast, (3) public space, (4) landscape, (5) Harmony of color, (6) panorama, (7) atmosphere, (8) uniqueness, (9) landmark, and (10) feeling save

4. Conclusions
This research analysed the importance and its performance attributes of three coastal sites that were proposed to be objects of coastal cruise tour (CCT). In the purpose of getting attributes to be improved for coastal cruise tour, the conclusions were:
(1) For Akkarena, landscape should be paid more attention. Sea water cleanliness, beautiful coast, atmosphere, and feeling save, were attributes that have high performance and to be kept sustainably. Other attributes, due to low performances, they were not to be considered.
(2) In Losari waterfront, only seawater cleanliness was the only attribute should be paid more intension; Attributes that required to be kept due to having high performance as well as importance were uniqueness, landmark, and feeling save
(3) For Paotere, the Phinisi ship port, concentration to be addressed to public space. Sea water cleanliness, uniqueness, and landmark, were the attributes that should be kept up due to having high performance and importance.
In the purpose of initiating coastal cruise tour, those attributes may use as the basic components for preliminary planning towards a comprehensive coastal tourism. It should be sustained with further research, with wider perspectives.

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