The Attractiveness of a Post-Mining City as a Tourist Destination from the Perspective of Visitors

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Abstract

Mining activities significantly contributed to the development of a city and the regional area. During the mining period, the city rapidly grew as it needs numerous additional facilities to support mining activities. However, in the post-mining period, a mining city suffers a lot of problems inherited from the mining era, ranging from economic incapability, social structure change, and environmental degradation. Shifting from mining to tourism become a prevalent option for many post-mining cities. Though tourism is mostly unable to provide as much prosperity as mining, many post-mining cities rely on the utilization of mining heritage assets for tourism, particularly small- to medium-sized cities. Studies in destination competitiveness mainly regard the attractiveness of the resources as the initial determinant in the success of tourism development.

This study measures the attractiveness of tourism resources in a post-mining city from the perspective of the visitors. 22 types of resources are grouped into three categories; core resources, created resources, and supporting resources. Questionnaire survey instrument then is distributed to 100 random visitors to Sawahlunto old coal mining city in Indonesia. Using a 5-point Likert scale, it measures the level of attractiveness of each resource to the respondents. Study result shows that natural beauty, mining heritage sites, museums, and architectural features are considered the most attractive resource in a post-mining city by the visitors. These resources become the main motivation for their visit. It also confirms that the visitor will likely arrange a returning visit some day in the future. The integration of visitor preferences in planning and policy development is one of dimension in destination competitiveness. The interrelationship between tourist preferences and product or service developed in a destination will consequently contribute to the number of actual visits.

Keywords: Post-mining potential; Resources attractiveness; Destination competitiveness

1. Introduction

In the industrial revolution era, a mining city might become a center of wealth and catalyze regional development worldwide. The invention of steam engine technology for various industrial activities required an enormous amount of energy production mainly originated from non-renewable energy sources, such as coal. Nevertheless, in consequence of industrial technology changes, many mining cities experienced complete closures of the mineral production. Additionally, the cities face economic, social and the environmental problems, including loss of revenue, unemployment, outmigration, and environmental degradation [1].

Regenerating former mining cities become a crucial policy issue since most of the mining cities are lack of economic alternatives for new development. One of the most common preferences in the post-mining era is the utilization of mining-related potential for tourism [2]. Bundled with other created resources, the cities offer a distinctive and memorable experience that could not be provided by others. However, "tourism after mining" strategy does not always end up with success. In 2007, Iwami Ginzan, a former silver mine city in the northwest of Japan, is registered as the first UNESCO World Heritage Site in Asia for post-mining city category [3]. Meanwhile, at the same time, Yubari City in Hokkaido suffered bankruptcy, the first and the only case in Japan, though city government invested heavily in converting the mining town to be a tourist center [4]. These two contradictive outcomes prove that post-mining city should have an enable tourism development strategy that enhances its competitiveness in tourism. One of the dimensions in destination competitiveness is recognizing visitor preferences during their visit. The number of visits will depend on the match between tourist preferences and perceived products or services offering [5].

This paper aims to analyze the appeal of core resources in the post-mining city from the visitor's perspective. It explores their primary motivation to visit Sawahlunto old coal mining town, a historical post-coal mining town in Indonesia. This research measures the significance of eleven groups of core resources and attractors, including natural beauty, cultural heritage, tourism infrastructure, special events, the range of activities, entertainment, shopping, general infrastructure, quality of services, accessibility, and hospitality in generating visits [5]. Considering visitor's preferences towards these resources is fundamental for the development of tourism product and service.

2. Theoretical Background

2.1. Post-Mining Potential

The transformation process is the central focus for post-mining cities studies. It comprises broad issues such as structural changes, capabilities of local and regional authority, problems and potentials of post-mining regions. In one hand, mining legacies are often considered negative and hampered future development. Other impediments are mono-structures, high unemployment rates, low educational background, environmental damage, altered landscape, outmigration, and high percentages of elderly people [2]. In particular, small and medium-sized post-mining cities often have to face additional handicap such as low organizational capacities and low political attention. Successful exploitation of mining potentials for development in small towns depends primarily on the ability to win funding from national government [7]. On the other hand, many post-mining cities utilize post-mining potential for tourism, although it is unable to produce as much prosperity as mining [6]. Wirth et al. divided post-mining potential into two groups, natural and cultural assets [6]. Natural potential consists of post-mining landscape and renewal mine water and biomass for energy sources. Cultural potential comprises a list of buildings, mining infrastructures, and tradition.

Preservation of post-mining potentials is another challenge for post-mining cities. On one side, the cities maximize economic benefit from the exploitation of the post-mining potential in tourism. At the same time, post-mining cities have to consider preservation of the cultural heritage asset. The recognition of UNESCO World Heritage Site (WHS) has been an ultimate solution to this problem in many post-mining cities. The inscriptions on the World Heritage List will lead to increases in tourist's arrival and consequently tourism expenditure, thereby benefiting the economies of the countries [8]. In addition, many regards the inscription of UNESCO World Heritage Site as the most effective international legal instrument for the protection of the cultural and natural heritage [9].

2.2. Destination Competitiveness

Competitiveness of tourism destination is a multidimensional study. This notion relates to the ability of the destination to increase tourism expenditure, to increasingly attract visitors while providing them with satisfying, memorable experiences, and to do so in a profitable way, while enhancing the well-being of destination residents and preserving the natural capital of the destination [10]. It is also linked with the ability of a destination management to develop image and branding as a strategy to attract more visits [11] and the ability to create value-added products that sustain resources while maintaining market position relative to other competitors [12]. The wide range definition of destination competitiveness generally involves economics, attractiveness and satisfaction, and sustainability dimension [13]. Traditional view regards the economic dimension as the main features of destination competitiveness and it is simply quantitatively measured in the number of the visitor, employment, and tourist expenditure. Meanwhile, attractiveness and satisfaction dimension are associated with the appeal of the destination to the visitors. The distinctive experience and satisfaction offered at a destination could be the key motivation for tourist to visit and become an important attribute for a destination to excel the competitor.

Dwyer and Kim (2003) develop an integrated destination competitiveness model which consider demand conditions as an important factor [5]. It also recognizes that destination competitiveness is not an ultimate end of policy making but is an intermediate goal towards the objective of regional or national economic prosperity. This model initiates four key determinants of destination competitiveness: resources; destination management; situational conditions; and demand conditions. This study focuses on the two-directional relationship between resources and demand conditions. This means, in one direction, created resources and supporting resources influence demand and in another direction tourist preferences and their motivation to visit will influence the type of products and service developed in the destination.

Resources are the fundamental reasons that prospective visitors choose a destination over another [14]. The resources are classified into Core Resources and Supporting Resources. Core resources are further categorized as Endowed (inherited) and Created. Endowed Resources could be natural and cultural resources while created resources include tourism infrastructure, special events, the range of available activities, entertainment and shopping. In addition, supporting resources exert more of a secondary effect by providing a firm foundation upon which a successful tourism industry can be established [14]. It comprises of general infrastructure, quality of service, accessibility of destination, hospitality and market ties.

The other components, destination management reinforces the competitiveness of destination by building effective communication between tourism stakeholders, promoting good image and branding of the destination, formulating appropriate policy and planning for development of the destination, developing human resources through education and training, and regularly monitoring the impact of tourism in the environment [15].

The third component, situational conditions relate to the wider external environment, including the location of destination, competitive environment, global environment, security and safety, and price competitiveness. The final components, the model acknowledge the importance of demand conditions, consist of awareness, perception, and preferences. The image of destination in visitor perception and their awareness of the product and service in destination influence their decision making to visit. Moreover, the congruence of their preference with product and service offered by the destination will directly affect the actual number of visits. This interrelationship becomes the motivation of this research.

2.3. Sawahlunto Old Coal Mining City

Sawahlunto hosted coal mining since 1882, the oldest coal-mining town in South East Asia. Located in the western side of Sumatera Island within area 273.45 Km^2, the city was initially a coal-mining site, which conducted by Dutch Indies. Coal mining urbanized Sawahlunto rural landscape into an industrial area, commercial and trading center, settlement area and health utilities [16]. Additionally, it fostered infrastructure development in West Sumatera region, particularly the railway network and Emmahaven harbor for transporting coal from Sawahlunto to the outer world, mainly Europe. Over 100 years, Sawahlunto experienced up and down in coal production and in late of 1990, it came to an end. Market demand, technology advancement, remaining reserves, and political situation pushed declining of coal production. Finally, In 2000, PT. Bukit Asam, State Owned Company that manage coal exploration, officially terminated mining activities.

The cessation of coal mining brought significant impact for local government as well as local community. The city lost revenue from coal mining sector and faced difficulties to attract new industry or business. It also experienced outmigration by 11,622 people in 2000, particularly mining-skilled labor [17]. Responding to unexpected following impact, local government established a new vision of the city: Sawahlunto to become *Kota Wisata Tambang yang Berbudaya*, A Cultural Tourism Mining City. The idea was to switch local economy from coal mining to tourism industry by utilization of post-mining potential. During the first five years of the transformation stage, the city conducted rehabilitation, revitalization, and preservation of all post-mining potential for tourism purposes. List of core resources and supporting resources available in the city is described in Figure 1.

Resources	
A. Core Resources	**Natural**
	1. Mountain; 2. Pit Lakes; 3. Climate; 4. Scenery; 5. Flora & Fauna; 6. Post-mining Landscape.
	Cultural
	7. Heritage Site/Museum; 8. Architectural Features/Post-mining Facilities; 9. Cuisine; 10. Traditional Arts; 11. Handicraft; 12. Language; 13. Customs.
B. Created Resources	14. Tourism Infrastructure; accommodation facilities, food stores, tourist information center, themed attractions, tour operators, travel agents, petrol stations.
	15. Special Events: Sawahlunto International Music Festival, Sawahlunto International Songket Carnival, Sawahlunto Multicultural Festival, Tour de Singkarak.
	16. Range of Activities: sport tourism, water park, educational tourism, adventure tourism.
	17. Entertainment: traditional music and dance festival, 4D Cinema.
	18. Shopping
C. Supporting Resources	19. General Infrastructure: road networks, bus system, water supply, telecommunications, health-care facilities, financial services, internet and computer service.
	20. Quality of Services
	21. Accessibility: frequency and quality of automobile, bus system.
	22. Hospitality

Fig. 1. Tourism Resource in Sawahlunto Old Coal Mining City

Sawahlunto located 120 Km from the capital city of West Sumatera Province. This unideal distance to the nearest international airport is a shortcoming for the city to attract international visitors. Thus, it is mostly visited by domestic tourists. After five years of transformation period in 2005, the city recorded an annual visitor about 37.000 people. In the following year, it rocketed to 377.220, mainly due to the opening various museums, post-mining tourism destination, and water park, the first water attraction tourist destination in the West Sumatera region at that time. The number of annual visitors increases steadily and in 2016 it is recorded 858.355 people [18].

3. Research Methodology

This paper is an initial phase of a study on the determinant of competitiveness post-mining city as a tourist destination, which focuses on the tourist's point of view about the core resources and attractors of tourism in a post-mining city. Primary data is the main source of analysis in this study. Direct observation and questionnaire distribution were applied to gather data from randomly selected visitors to several tourist destinations in Sawahlunto, West Sumatera Province, Indonesia. The sample population for this study is derived from the number of annual visitor to Sawahlunto in 2016. Applying Slovin formula at the 90% of confidence level, the researcher conducted a questionnaire survey to 100 visitors with the assistance of local government officers and managers of the tourist destinations. Once data were gathered, an exploratory approach and descriptive analysis next were utilized to assess the core resources motivated people to visit Sawahlunto as a tourist destination.

Resources variable in this research were based on the destination competitiveness model developed by Dwyer and Kim (2003). The selected variables were chosen and adapted to accommodate the characteristic of Sawahlunto as a post-mining city (Figure. 1). It is the predominant focus of the questionnaire survey which comprises eleven items: natural, cultural, tourism infrastructure, special events, the range of activities, entertainment, shopping, general infrastructure, quality of services, accessibility, and hospitality. The questionnaire is divided into four parts: personal characteristic, number of visits, the motivation to visit in relation to the resources, and the possibility of returning visits. Questions about the personal characteristic include age and city of origin of the respondent. In the main part, the questionnaire measures the interest of the respondents towards tourism resources available in the city and provided by the local government using a 5 point Likert scale with 1 = not attractive, 2 = unattractive, 3 = neutral, 4 = attractive, 5 = very attractive. The survey results are presented in the following section with mean values and standard deviations for each variable. Resources item with mean values greater than 3 are considered as competitive.

4. Study Results

4.1. Sample Characteristic

Personal characteristic of the respondent shows that majority of the sample are young people, up to 24 years old (61%), followed by 30% in the age group between 25-44 years old, while the respondent with more 45 years old represents only 9% of the sample. More than a half of the respondent (52%) visit Sawahlunto for the first time and 19% of the respondent have traveled there for more than 5 times. Other respondents, 15% travel for the second time and the remaining 15% have visited for 3-5 times. In addition, 92% of the respondents are the domestic tourist and the rest are international visitors. Comparing their origin, 56% of the respondent originate within West Sumatera Province and another 44% travel from outside of the region. In other words, tourists from surrounding cities are one day traveler while visitors from outside of the region travel to the capital city by airline and transfer their trip using bus/automobile to Sawahlunto.

4.2. The attractiveness of tourism resources

The attractiveness of resources is ranked in Figure 2. All mean scores are above 3 which means all resource items were acknowledged to be attractive by the respondents. According to the respondents, the top ten attractors comprise of natural beauty and post-mining potential resources. Sawahlunto old coal mining city consists of four districts, namely *Lembah Segar, Silungkang, Barangin* and *Talawi* respectively. *Lembah Segar* district is the city center where most mining heritage sites, museums, and western style architectural features are located. This district also features unspoiled nature and beautiful scenery from surrounding mountains. Moreover, it hosts of culture mix between the native inhabitants and the immigrant workers. Their unique social structure along with a mining tradition offer an exceptional experience to the visitors. Possessing complete natural and cultural resources has been an advantage for Sawahlunto old coal mining city. Currently, the city is on the tentative list of UNESCO World Heritage Site list. The inscription on the WHS list is expected to improve the attractiveness of the resource in tourism.

Resources	Attractiveness			Resources	Attractiveness		
	Rank	Mean	SD		Rank	Mean	SD
Mountain	1	4.59	0.51	Special Events	12	4.14	0.77
Scenery	2	4.49	0.63	Language	13	4.12	0.73
Heritage Site/Museum	3	4.43	0.67	Accessibility	14	4.11	0.83
Architectural Features	4	4.42	0.68	Handicraft	15	4.10	0.82
Hospitality	5	4.40	0.68	Entertainment	16	4.07	0.92
Customs	6	4.32	0.71	Flora and Fauna	17	4.02	0.83
Mine Pit Lakes	7	4.31	0.68	Shopping	18	3.98	0.79
Post-mining Landscape	8	4.28	0.74	General Infrastructure	19	3.91	0.88
Range of Activities	9	4.28	0.77	Traditional Art	20	3.89	0.99
Cuisine	10	4.19	0.77	Climate	21	3.87	1.09
Quality of Services	11	4.18	0.73	Tourism Infrastructure	22	3.77	0.99

Fig. 2. Resources ranked by its attractiveness mean scores (N=100)

Mine pit lakes and post-mining landscape occupy the seventh and eighth spot. These are located outside the city center, mainly in *Barangin* and *Talawi* district. It has been utilized for a various range of activities such as sport and adventure tourism, natural park, and environmental tourism. The city is also well known for weaving traditional clothes, called *songket,* concentrated in Silungkang region. It has been developed for many years as an economic alternative in the post-mining period and could be an alternative attractor for inviting the visitors.

Interestingly, special events, entertainment, and shopping rank in the bottom half. Various events, entertainment attractions and shopping center available in the city are inferior compared to natural and mining heritage resources. The events and entertainment attractions are held occasionally, and not all the visitors could experience during the time of the visit. Sawahlunto is also lacking pleasant general infrastructure, particularly the road network and local transport system. The city does not have an interconnected mode of public transportation which hamper the mobility of the visitors. Another striking feature is the mean of tourism infrastructure which settles the last position. The unavailability of five- and four-star hotel has significantly decreased the attractiveness of the city from the perspective of the respondents. The most convenient accommodation facilities are two three-star hotels with 61 rooms in total. Other accommodation types are 165 room homestays spreading around the city, managed by local community [18]. A limited number of the tour operator and travel agents also consequently reduce the accessibility of the city from outer regions.

However, all of these shortcomings could not hinder the possibility of the returning visit. All of the respondents acknowledge the attractiveness of post-mining city as a tourist destination by confirming the possibility of returning visit.

5. Conclusions

Sawahlunto old mining city is blessed with abundant natural and cultural resources for tourism. In specific, it offers a memorable experience from the coal mining history which could not be found in other cities in the region. This study asserts the merit of a post-mining city as a tourist destination from the perspective of the visitor is its natural beauty and mining heritage resources. While natural beauty might be found in other cities, but a list of mining heritage sites, museums, architectural features and scenic post-mining landscape could only be possessed by certain cities. Measuring the perspective of the visitor could be useful for the city to grasp the main motivation and interest of the visitor. The congruence of tourists preference could significantly contribute to decision making process and tourism development policy.

References

[1] Müller B, Finka M, Lintz G. Rise and decline of industry in Central and Eastern Europe. A comparative study of cities and regions in eleven countries.Central and Eastern European Development Studies.Berlin, Heidelberg, New York 2005.

[2] Harfst J. Utilizing the past: Valorizing post-mining potential in Central Europe. The Extractive Industries and Society 2015;2(2):217-224.

[3] UNESCO. Available at: http://whc.unesco.org/ en/list/1246. Accessed 06/22, 2018.

[4] Hattori K, Kaido K, Matsuyuki M. The development of urban shrinkage discourse and policy response in Japan. *Cities* 2017;69:p. 124-132.

[5] Dwyer L, Kim C. Destination competitiveness: determinants and indicators. Current issues in tourism 2003;6(5):p. 369-414.

[6] Wirth P, Černič-Mali B, Fischer W. Problems and Potentials of Post-Mining Regions. Post-Mining Regions in Central Europe–Problems, Potentials, Possibilities.München 2012:p. 14-31.

[7] Vaishar, A., Lipovska, Z., St'astna, M., 2012. Small towns in post-mining regions. Post-Mining Regions in Central Europe–Problems, Potentials, Possibilities.München 2012, pp. 153–181.

[8] Su, Y. W., & Lin, H. L. (2014). Analysis of international tourist arrivals worldwide: The role of World Heritage Sites. Tourism Management, 40, 46–58.

[9] Frey, B. S., Pamini, P., & Steiner, L. (2013). Explaining the World Heritage List: An empirical study. International Review of Economics, 60(1), 1–19.

[10] Ritchie JB, Crouch GI. The competitive destination: A sustainable tourism perspective. : Cabi; 2003.

[11] Uysal, M., Chen, J. S., & Williams, D. R. (2000). Increasing state market share through a regional positioning. Tourism Management, 21(1).

[12] Hassan, S. S. (2000). Determinants of market competitiveness in an environmentally sustainable tourism industry. Journal of Travel Research, 38(3), 239e245.

[13] Abreu Novais, M., Ruhanen, L., & Arcodia, C. (2017). Destination competitiveness: A phenomenographic study. Tourism Management, 64, 324-334 .

[14] Crouch, G. I., & Ritchie, J. R. B. (1999). Tourism, competitiveness, and societal prosperity. Journal of Business Research, 44(3), 137–152.

[15] Ritchie JB, Crouch GI. The competitive destination: A sustainable tourism perspective. : Cabi; 2003.

[16] UNESCO. Available at: http://whc.unesco.org/en/tentativelists/6057/. Accessed 06/22, 2018.

[17] Badan Pusat Statistik Provinsi Sumatera Barat. https://sumbar.bps.go.id/statictable/2015/03/31/54/penduduk-sumatera-barat-menurut-kabupaten-kota-1971-1980-1990-1995-2000-2005-2010-dan-2015.html (accessed July 5, 2018).

[18] Sawahlunto Tourism Agency, Annual Report, 2017.