

Tourism Destination Competitiveness Model for a Small-sized Post-mining City: The Case Indonesian Post-mining Cities

Roni Armis¹, Hidehiko Kanegae²

¹ Graduate Student, Graduate School of Policy Science, Ritsumeikan University
(2-150 Iwakura-cho, Ibaraki, Osaka 567-8570, Japan)

² Professor, Graduate School of Policy Science, Ritsumeikan University
(2-150 Iwakura-cho, Ibaraki, Osaka 567-8570, Japan)

Abstract

Various components constitute the competitiveness of a tourist destination, mainly grouped into four categories; resources, destination management, situational condition, and demand conditions. However, research in tourism destination competitiveness reveals that there is no generic model of destination competitiveness. A set of specific indicators has to be developed in measuring competitiveness a particular tourist destination. This paper aims to specifically develop competitiveness model of a post-mining city as a tourist destination. The model emphasizes on policy issues in a former mining city after the cessation of mineral production, including destination policy, planning and management, destination management, and the regeneration effort of post-mining sites and mining community. A quantitative research approach was designed to empirically measured the influence of these aspects in the city's competitiveness in tourism. The model will be tested in a historic post-mining town in Indonesia, namely Sawahlunto and Belitung Timur. Research findings are expected to show the contribution level of each policy indicators in strengthening the competitive advantage of the cities.

Keywords: Destination competitiveness model; Post-mining city; Mining heritage tourism.

1. Introduction

Mining heritage tourism is continually growing in many post-mining cities. The city of Wallonia in Belgium or Iwami Ginza in Oda Japan, have demonstrated how a post-mining city bounces back from decay and abandoned mining site to a well-known tourist destination. The tangible and intangible mining heritage features are repackaged as tourism products and could be a basis for development in post-mining period. Old buildings, defunct mining infrastructure along with miner traditions and customs are distinct and exclusive characteristics which not many cities pose these attributes. Post-mining city is a perfect place to escape from day-to-day problems or recharge mental health. Visiting mining heritage sites would also change misconceptions about the black image of the mining environment and society.

Mining heritage features are the main appeal of the post-mining city, and it must be utilized to draw the visitors. The attractiveness of a tourist destination is associated with the visitors' feelings and opinions about the destination's perceived ability to satisfy their needs (Vengesai 2003). In other words, when a destination meets the needs of its visitors, it is perceived to be attractive and will likely be chosen over its competitors. The unique experience and satisfaction offered by a destination could contribute to the primary motivation for tourists to visit, and it could become an important attribute for a location to excel in its competition with other areas.

Destination competitiveness is mostly related to the ability of a destination to increase tourism expenditures and attract visitors (Ritchie and Crouch 2003), the ability to develop effective branding as a strategy to attract more visitors (Uysal et al. 2000), or the ability to create value-added products that sustain resources while maintaining a market position relative to other competitors (Hassan 2000). Dwyer and Kim (2003), developed an integrated destination competitiveness model which combines supply and demand conditions. In the supply side, the model acknowledged the importance of destination policy, planning and development, along with destination management in enhancing competitiveness. However, for former mining cities, these policy measures are not necessarily enough without the combination of urban regeneration policies.

The objective of this study is to develop a specific destination competitiveness model of mining heritage tourism in a small-sized post-mining city. The model emphasizes on the type and magnitude of policy issues in mining heritage tourism application. It is empirically tested in Sawahlunto and Belitung Timur, two historic post-mining cities in Sumatera region, Indonesia. Sawahlunto was a coal mining town since 1882 and was the oldest coal-mining town in South East Asia. Meanwhile, Belitung Timur has a long history in the world tin industry. Both cities were initially established by mining companies in the colonialization period. Both coal and tin mining has urbanized cities' rural landscape and turned it into an industrial area, commercial and trading centers, settlement areas, and health facilities. However, as a result of resource depletion and global market changes, mining activities have been ceased. Now, these cities are converting from mining to tourism economic development base.

2. Theoretical Background

2.1 Post-mining City and Mining Community

A mining city is one whose development is dominated by mining, a primary industry that involves the extraction and processing of minerals and other geological materials (Martinez-Fernandez et al., 2012). More specifically, a mining community is a settlement that evolves near a mining site and is where most of the mineworkers live (Dale, 2007). The most common characteristic of post-mining cities is highly dependent on renewable resources. As a consequence, the mine will shut down once the

resources become exhausted or uneconomical (Bridge, 2004; Veiga et al., 2001). Also, mining sites are commonly located in peripheral area. In many remote mine sites in Asia, the communities are often dependent on the facilities and infrastructure developed through local mine. Much of the roads and transportation networks, water and sanitation services, housing, hospitals, and schools were established through mining activities before it is privatized by the governments after mine closure (World Bank and International Finance Corporation, 2002). In Japan, Iwami Ginzan silver mine and Yubari coal mine are isolated in the remote side. Likewise, Sado gold mine and Gunkanjima are secluded in the outer island. Another unfavorable characteristic is that many mining sites inherited environmental problem, including land subsidence, damage to the water environment, mining waste disposal, landscape change and air pollution (Bian et al., 2010).

Mine closures have been a global phenomenon since the 1990s, particularly in Europe. In Asia, China shut down about 40,000 illegal small-scale coal mines and over 250 state-owned coal mines in the year 2000 alone (Ellis, 2002). Moreover, Asian countries are likely to be most impacted by future coal mine closure. Latest data of World Bank Group (2018) revealed that China, India, and Indonesia share 61 percent of the global production. It indicates that there will be many more post-mining sites in the future. Downsizing or closures in the coal industry are mainly due to three drivers (World Bank Group, 2018): the global energy market, clean energy policies, and coal mine mechanization. Regarding the first driver, the demand and price of mined resources are determined by global markets that tend to be volatile. Secondly, policy interventions have prevented local and regional air pollution by introducing clean, low carbon energy. The final driver is related to technical improvements in coal extraction methods and technologies resulted in the loss of mine jobs.

Strengthening community resilience towards mine closure become a concern for many post-mining sites. Resilience is defined as the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change (Pike et al., 2010). Mining closure creates subsequent impact to the community and the resilience of the community in post-mining period determine the sustainability of the city. The most notable implications are the decline in economic activity and disappearance of skills, knowledge, and innovation. Restructuring efforts are harder for small to medium-sized cities (Harfst, 2014). Unlike major post-mining cities, these cities often face additional handicaps, such as low organizational capacities and inadequate attention or political support from the national government. The successful redevelopment of mining infrastructure in small towns depends primarily on the ability to win funding from the national government (Su & Lin, 2014). One of the most prominent evidence take place in Yubari, a historical coal mine city in Hokkaido island Japan. Since 1892, coal mining industries had been the primary economic resource of the city. In 1990, the city was transforming the local economy from coal industry to mining heritage tourism. However, it attracted public attention in 2007 due to its bankruptcy, the first and the only case in Japan. The failure of Yubari was the combination of high local public debt (more than 63 billion Yen in 2006) and the refusal of Japan national government to bail it out (Ferilli et al., 2015).

Unrelated and related diversified economy are needed to degrade the unemployment rate and outmigration of skilled labor. It could be based on post-mining potential or a new type of economic diversification. Following the failure in 2007, Yubari revived the local economy by accelerating the

agriculture sector, particularly melon and vegetable farming. In Malaysia, the Sunway Lagoon city converted former mining sites as a center of education, health, and social services. Meanwhile, in Changsha China, the Dawangshan Pit, an opencast limestone quarry with over forty-year mining history, has been converted into a five-star hotel and theme park through the Intercontinental Shanghai Wonderland Hotel (ISWH) project and the Ice World and Water Park (IWWP) project (Tan et al., 2019). But in most cases, tourism and leisure become the most frequent preference for many post-mining cities globally. The rationale is to offer their unique mining history and tangible heritage as the main tourism product to the visitors.

2.2 Mining Heritage and Tourism

Mining tourism, which in some previous studies was considered as a part of industrial tourism (Falser & Yang, 2001; Orange, 2008), is a form of tourist activity in active or post-mining sites. It is continually recognized as a future economic engine for post-mining cities focusing on the utilization of both tangible and intangible forms of mining heritage, which can include buildings, defunct mining infrastructure, abandoned mining landscapes, mining souvenir products, mining traditions and customs, and mining knowledge or skills. A city's distinct characteristic and exclusive history can be repackaged as a tourism product and service. Rózycki & Dryglas, (2017) specified that a post-mining city is a perfect place for people to escape their day-to-day problems, as they can regenerate their physical and mental strength, improve health and fitness, and deeply relax in an unusual place. At a mining site, a visitor can examine stereotypes and misconceptions about working in a mining environment, including those related to its safety measures and methods of operation.

The utilization of mining heritage in tourism aims to foster economic and cultural value for both the visitors and the local mining community by generating new revenue streams. Economic values are expressed in financial terms, such as income generation, number of jobs created, and tax revenues, whereas cultural values are related to aesthetics, spiritual qualities, and the historical significance of the site. Table 1 describes the construction of mining heritage value from six components.

Table 1. Construction of mining heritage value in tourism, adapted from Throsby (2009)

Value	Features
Aesthetic value	Visual beauty of the old buildings, former mining infrastructures and sites
Spiritual value	The significance of mining heritage in providing understanding or in representing religious mining tradition
Social value	The role of mining heritage in forming cultural identity or a sense of togetherness with other community members
Historical value	Connectivity of mining heritage with the past
Symbolic value	Mining heritage feature or sites as repositories or conveyors of meaning
Authenticity value	The uniqueness of visiting mining heritage features

All of the abovementioned values are acquired from the buildings used for mining production and supporting infrastructure for mining industries. These heritage features are often abandoned once mining ceases. Thus, the rehabilitation of post-mining potentials has to be integrated into the strategic development plans and must guarantee four aspects (Mendes, 2013). First, all mining industry legacies must display a sufficient aesthetic of deindustrialization in order to make the post-mining site attractive.

Edwards & Coit, (1996) proposed a typology for choosing sufficiently attractive mining sites as industrial heritage attractions: productive attractions, processing attractions, transport attractions, and social-cultural attractions. Productive attractions consist of either surface or underground mining sites, open pit or open mountainside quarries, and tunnels or deep shafts. Processing attractions are related to site-based or site-serving facilities, while transport attractions include underground and site tours by train or tramcar. Social-cultural attractions are associated with the miners' settlements and villages, social support infrastructure, local markets, green space, education and health-care facilities, and administrative offices. The second aspect involves creating local and regional business initiatives to promote sustainable mining heritage and incorporating other diversified and productive activities in the cities. The third aspect deals with the environmental remediation of mining landscapes commonly thought of as polluted and degraded lands. Lastly, the fourth aspect underlines the importance of creating intense publicity to improve public awareness.

The preservation and conservation of mining heritage assets are concurrent with the expansion of the United Nation's World Heritage Site (WHS) designations into industrial heritage areas. WHS designation is seen as a validation of a mining site or city's heritage value. Consequently, the designation will lead to increased tourist traffic, generate additional revenue, and encourage site stewards, thereby benefiting the economies of the affected cities or countries (Rodwell, 2012; Su & Lin, 2014). Thus, it is not surprising that many former mining sites or cities are able to transform into famous tourist destinations, including Zollverein in Germany (2001), Iwami Ginzan Silver Mine site in Japan (2007), and mining sites in Japan's Meiji Industrial Revolution (2015). In addition, many regard the United Nation's Educational, Scientific, and Cultural Organization's (UNESCO) WHS designation as the most effective international legal instrument for the protection of cultural and natural heritage (Frey et al., 2013).

2.3 Destination Competitiveness Model for Mining Heritage Tourism

A destination's main appeal is its attractiveness, and it must use this to draw visitors. It is associated with the visitors' feelings and opinions about the destination's perceived ability to satisfy their needs (Vengesai, 2003). In other words, when a destination meets the needs of its visitors, it is perceived to be attractive and will likely be chosen over its competitors. The distinctive experience and satisfaction offered by a destination could contribute to the key motivation tourists have to visit, and it could become an important attribute for a location to excel in its competition with other locations. In mining tourism, the main attractor is generally split into four categories, as listed in Table 2.

Table 2. Mining tourism attractors (Jolliffe & Conlin, 2011)

Natural	Human-made not originally designed primarily for visitation	Human-made and purpose built for visitation	Special Events
Caves	Mines	Mining Theme Parks	Mining Festivals
Rock Faces	Quarries	Mining Museums	Mining Commemorations
Landforms	Mining Railways	Mining Open Air Museums	Mining Anniversaries
	Mining Communities	Mining Community Museums	
	Mining Ghost Towns	Mining Interpretation Centres	
		Mining Routes	

Competitiveness of tourism destinations is a multifaceted term, but mostly related to the ability of destination to attract more visitors by delivering quality, innovative, and attractive tourism services to consumers (Dupeyras & MacCallum, 2013). Previous studies in destination competitiveness explore a different type of indicators in measuring competitiveness. Thus, there is no generic model for every destination because specific problems may arise in particular applications. Destination competitiveness model should be developed for specific destination and different context (Dwyer & Kim, 2003). Porter's diamond of national competitiveness is the pioneer of destination competitiveness model (Porter, 1990). Ritchie & Crouch, (2003) based Porter' diamond in developing one of the most competitiveness model in tourism studies. This model acknowledged destination policy, planning and management as one of the biggest drivers in strengthening the competitiveness. Another aspect is the management of the destination, which mainly focuses on effective branding as a strategy to attract more visitors. However, for mining heritage tourism, the regeneration effort of post-mining sites and mining community also typically determine the success of "tourism after mining" approach. Specific destination competitiveness model for mining heritage tourism is depicted as Figure 1 below.

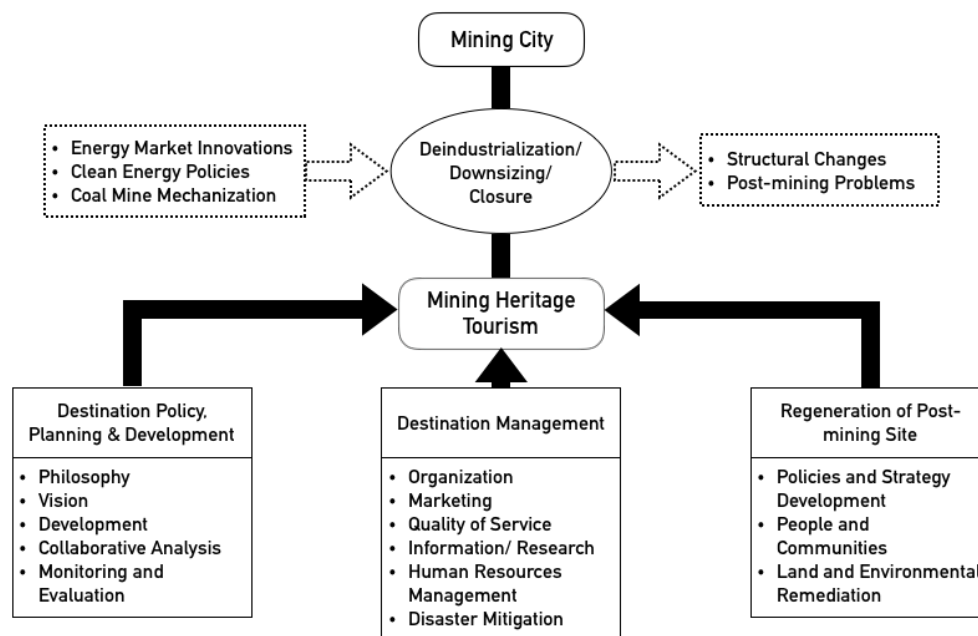


Fig.1. Competitiveness Model of Mining Heritage Tourism, developed from (Ritchie & Crouch, 2003)

This model emphasizes the combination of tourism studies and urban regeneration indicators in the reinforcement of mining heritage in tourism. The selected indicators measure policy-related issues in the application mining heritage tourism.

3. Methodology

The proposed model is empirically tested through a quantitative research approach. A set of the questionnaire is used to capture policy issues in 17 indicators, which are grouped into three categories. The operationalization of the indicators is described as in Table 3. The questionnaire instruments are arranged based on the operationalization of the indicators using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). This study applies a non-random sampling technique to five groups of respondents, including local government officials, mining companies, local communities, academician, and tourism business operators (hotel, restaurant, and tour). This model will be tested in two historic

post-mining cities in Indonesia, namely Sawahlunto and Belitung Timur. Sawahlunto was coal mining town since 1882 and was the oldest coal-mining town in South East Asia. Located on the western side of Sumatera Island in an area of 273.45 km², the city is registered as UNESCO World Heritage Site from 6 June 2019. Meanwhile, Belitung Timur was a great tin producer in Asia region. Located in a remote island in Bangka Belitung province, the city currently focuses on converting open pit tin mine site as a tourist destination.

Table 3. Overview of the variables and the operationalization

Variable	Description
Competitiveness	Binary variable: 1 = The destination stands for high quality tourism service; 0 = else
Destination Policy, Planning & Development	
Philosophy	Destination has a clear philosophy
Vision	There is a vision in tourism; we know what we want to achieve in the future
Development	The governing body of tourism has an explicit strategic direction
Collaborative Analysis	Destination controls and evaluates its political strategy
Monitoring	The governing body of tourism regularly evaluate performance
Destination Management	
Organization	There is an organization body managing the destination
Marketing	Destination Management Organization (DMO) is conducting a smart marketing strategy
Quality of Service	Destinations offer an exceptional service to the visitors
Information/ Research	Destination managers develop services based on research
Human Resources Management	Destination is supported by skilled staff and operators
Disaster mitigation	The governing body of tourism consider disaster mitigation in destinations
Regeneration of Post-mining site	
Policies1	Local authorities overcome social and economic impacts of mine closure
Policies2	Mining heritage properties are well preserved
People and community1	Local stakeholders are encouraged to participation in planning and development
People and community2	Youth generation have experienced the lesson about the history of the city
People and community3	Mining community feels attached with the city and its historical value
Environmental remediation	Environmental problems are addressed after mine closure

Note: If not otherwise indicated, items were measured on a scale from 1 = strongly disagree to 5 = strongly agree.

The data will be computed using logistic regression analysis to test the impact of policy issues and stakeholder group on the competitiveness of the cities in tourism. The following equation will be used to estimate the model:

$$\begin{aligned} \text{Competitiveness} = & \beta_0 + \beta_1\text{Philosophy} + \beta_2\text{Vision} + \beta_3\text{Development} + \beta_4\text{CollaborativeAnalysis} \\ & + \beta_5\text{Monitoring} + \beta_6\text{Organization} + \beta_7\text{Marketing} + \beta_8\text{QualityofService} \\ & + \beta_9\text{Information} + \beta_{10}\text{HumanResouces} + \beta_{11}\text{DisasterMitigation} + \beta_{12}\text{Policies1} \\ & + \beta_{13}\text{Policies2} + \beta_{14}\text{PeopleCommunity1} + \beta_{15}\text{PeopleCommunity2} \\ & + \beta_{16}\text{PeopleCommunity3} + \beta_{17}\text{Environmental Remediation} \end{aligned}$$

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