



# Formulation Strategy of PT. Bandara Internasional Jawa Barat Bandung Indonesia, Kertajati in business Aerocity (Aerotropolis)

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## ABSTRACT

Aerotropolis is a city airport development concept, or commonly called "Airport City." The concept of aerotropolis is a new concept in the world transport industry where the Airport has shifted from transportation center to a multifunctional aero metropolis. The development of an international airport can be a trigger for business development as well as the surrounding urban areas. The airport city serves not only as a performance index of a State in development but also plays a role as a driver of national industry and the gateway to economic globalization. Through library reviews, secondary data analysis and interviews with focus groups and experts, this paper explores the development features, operating strategies and competitive advantages of the Aerogity Business concept at Kertajati International Airport. This research proposes the formulation of strategy based on resource-based approach and also using approach of strategy formulation of Wheelen and Hunger model in which there is analysis of external factor evaluation, internal factor evaluation, then determining strategic direction by using threats, opportunities, weakness, strength matrix. Case study at Kertajati International Airport which carries aerotropolis concept in accordance with master plan of Airport development. The proposed strategic plan is expected to provide a systematic referral of operations for PT. BIJB as the International Airport Company Kertajati as well as Aerocity Business Company, but it is also expected to inspire for new research in the framework of study for the development of Airport City in Indonesia.

**Keywords:** Aerocity, Swot analysis, Strategy formulation, Development and Evaluation

**JEL Classification:** L1

## 1. 1. INTRODUCTION

The industrial revolution plays an active role as an organizational entity that has a vision of achieving financial benefits (Hertati, 2016). Mental revolution is balanced with the education system and increased self-potential through training to address the era of globalization that has a 4.0 industrial revolution character in which new literacy is needed by using integrated data analysis and conclusions so that it is related to communication, collaboration, critical thinking, creative and innovative (Soehari and Budiningsih, 2019). The existence of an industrial revolution provides advantages in increasing product competitiveness and there are e-commerce opportunities and digital economic developers for industry players. Syafarudin (2016) the synthesis of industrial revolution 4.0 will give birth to a prosperous society

in development, while the mental revolution gives birth to qualified and superior human beings (Hertati and Sumantri, 2016). Information systems are a set of tools as a formal procedure in data collection (Syafarudin and Sudiarditha, 2018). Furthermore, Hertati (2015) states that information systems are a tool to find out whether production is still favored by consumers. Companies need accurate and well-integrated information and information and distribution to users. Furthermore, information systems are a set of resources designed to transform data into information. Industry has a great opportunity to be developed into a center of excellence in technology according to the type of industry (Hertati and Sumantri, 2016).

Kertajati International Airport is located in Kertajati Majalengka West Java Province and is located about 68 km from Bandung.

strategically located around the developing area of West Java, the accessibility of Kertajati International Airport is assured by the highway and railway connecting Bandung, Kertajati and Cirebon; Cisumdawu toll road to connect Bandung and Kertajati; Cipali toll road connecting Kertajati and Karawang area and also a direct path to the port of Cirebon. Kertajati International Airport is the first Airport in Indonesia that has Aerocity or aerotropolis concept, where the concept of the airport is usually planned separately with the development of the city into a unity in the planning package. The development of the airport and the surrounding area will be an airport development planning for the airport. The development of Kertajati Aero City is divided into four stages: Industrial and warehousing zones, public and social service zones, office zones, trade and services, residential zones, green open spaces, blue open space zones, mixed zones, The aero city or the aerotropolis has a major effect on rate of employment, economic development, tourism and can open new markets. According to Dr John Kasarda the director of Keenan Institute for Private Enterprise "Firms are clustering at and around major airports because of the accessibility, speed and agility airports provide to new-economy supply chains and the connectivity to customers and enterprise partners, and tourists (nationally and worldwide)" (Kasarda, 2006).

The design of the aerotropolis contributes in making architecture more visually appealing due to the integration of open space and the mixed used development and recreation. It also can also make a region more capable of attracting corporations that depend on time sensitive manufacturing in addition to air-travel intensive professionals as it provides convenient access to national and international locations Weisbrod, (1993). In fact, a shift has taken place in the past 20 years from price to quality to speed. "Alfred Taubler describes evidence of this in his 1990 publication Power Shift. Taubler states that competition is now based upon "survival of the fastest" businesses that include the internet and aircraft are interacting in order to develop an increasingly fast globally networked economy which changes the rules of international competition and business location. (Jay, 2007) In addition the massive land bank that surrounds airports are left unused therefore aero cities could help in exploiting this vacant land (Kasarda, 2009). The Airport City The concept of an airport of the city is fed by the establishment of complete set activities and the uses such as the tourism (hotels, golf, museums, tourist districts, etc.) In short, "airports have become commercial destinations, they are urban realms that drive and shape the fabric of the new cities they create." "Access makes cities while global access, superlative service and meticulous planning make airport cities." (Kasarda, 2006). The need for an Airport City The functional core of an airport city is the passenger terminal which is linked to an urban central square that operates to offer various specialized goods and services. The urban functions for example offices, hotels and exhibition complexes that are found near the terminal create a city like environment around the airport. It offers airports a commercial and competitive advantage for airline clients and civil aviation clients, it also reduces the reliance on airline customers for revenue; property developers can supplement airport income. In addition to coping with the financial and infrastructural demands on airports that result from recent developments in the aviation industry (Kasarda, 2010).

The aerotropolis: As an airport city develops outwards from the fence line the boundaries between airport and its surrounding urban centre, it starts to be an integral business and residential district that is called the aerotropolis. (Lindsay, 2009) the presence of an airport area serving as a region-wide multimodal transportation and commercial hub of airport-linked business parks, information and communications technology complexes, retail and hotel centres and industrial parks can be found now along airport arteries. The aerotropolis is similar in shape to the traditional metropolis which is made up of a central city and its commuter-linked suburbs, the aerotropolis also consists of an airport city and areas of aviation-orientated businesses in addition to the associated residential developments (Kasarda, 2010). The aviation-orientated commercial development is occurring beyond the airport boundaries. As airport related developments spread the presence of rail links, highways and waterways nearby urban centre is of high importance. (Lindsay, 2009) As the aerotropolis develops, it often becomes the centre of a complex distribution and shipping network targeting the niche industries like for example, high-tech, time sensitive and freight forwarding companies which leads to economic growth and job creation. "Atlanta Hartsfield-Jackson International Airport's aerotropolis generated an estimated 434,000 jobs in 2009 and contributed \$58.2 billion in direct and indirect revenue in 2009, according to a recent economic impact study commissioned by city officials" (Kasarda, 2006). Since multi-modal transportation and advanced communication infrastructure develops at and near airports, businesses will be encouraged to move to an aerotropolis. Therefore, the main determinant of land value, lease rates and the type of commercial use on any property will be the cost of moving people and products to faraway markets. As evident the aerotropolis of the future will be measured by accessibility, sustainability and convenience (Kasarda, 2010).

Planning for a successful airport city The function of the aerotropolis will have a major contribution in the emerging needs of business, more efficient cargo and passenger flows and the future competitiveness of urban areas. These outcomes will not occur suddenly but in order to achieve aerotropolis optimisation this will require bringing airport planning, urban planning, and business site planning together in a way so that development is economically efficient, aesthetically pleasing, and environmentally and socially sustainable. (Kasarda, 2008) These development's objectives need not only good external infrastructure but also the creation of an effective aerotropolis working and living environment. In fact an improved physical and social environment must be created that:

1. Facilitates traffic flows in and out of the airport (Kasarda, 2006)
2. Aligns businesses in proximity to the airport in relation to their frequency of use of the airport, (David, 2009)
3. Promotes fast airport access to both the downtown and airport dependent enterprises located throughout the region. (Kasarda, 2006)
4. Locate commercial and residential developments sensitive to noise and aircraft emissions outside high intensity flight contours. (David, 2009)
5. Creates mixed-use residential clusters where airport and airport area employees can commute easily to work while

residing in human-scale communities supported by adequate retail, service, and community facilities. (David, 2009) The challenge now becomes to design and administer future airport city and aerotropolis development in a manner that it brings about the greatest returns to the airport, its users, and the larger region it serves. The airports case studies are considered in the context of the provided theoretical framework that concentrates on the regional and economic position of the airport as a city port in the city-region. (David, 2009).

In carrying out its business activities, PT. BIJB is required to prepare strategies in realizing the Company’s Vision of Mission. Therefore it takes research in order to create a suitable strategy formula based on the existing Strategic Management theory. This study aims to determine the process of formulation and what strategies are appropriate for use by PT. BIJB.

## 2. LITERATURE REVIEW

Rangkuti (2008), a company can develop strategies to overcome external threats and seize the opportunities that exist. The process of analysis, formulation and evaluation of such strategies is called strategic planning. The main purpose of strategic planning is for companies to view objectively internal and external conditions, so that companies can anticipate changes in the external environment. David (2009), the strategic management process consists of three stages: Strategic formulation, strategic implementation and strategic evaluation. Strategic formulation includes developing business missions, identifying external opportunities and threats, establishing internal strengths and weaknesses, establishing long-term goals, generating alternative strategies, and choosing specific strategies to implement. Strategic Implementation requires companies to set annual objectives, equip them with policies, motivate employees, and allocate resources so that the formulated strategy can be implemented; Strategic implementations include developing a culture of strategic support, creating effective organizational structures, changing the direction of marketing efforts, preparing budgets, developing and utilizing information systems, and linking employee compensation to organizational performance (Rickerson, 2009). Strategic Evaluation is the final stage in strategic management.

The procedures adopted in the preparation of this Strategic Plan include: Data collection methods, analysis of the external environment (opportunities and threats) and internal environment analysis (strengths and weaknesses). Jay, (2007), an analysis of the external environment (opportunities and threats) by Michael

(2001), describes that. First, opportunities are conditions in the general environment that can help the organization achieve its competitiveness. Secondly, threats are conditions in the general environment that can disrupt the organization’s efforts in achieving strategic competitiveness. The purpose of an external audit is to develop a limited list of opportunities that organizations can use and threats to avoid. The external analysis component consists of: Scanning, identifying initial clues of environmental changes and trends; monitoring, detecting meaning through continuous observation of changes and environmental trends; forecasting, develop projections of anticipated results based on changes and monitored tendencies; assessing, determining the timing and importance of changes and environmental trends for organizational and management strategies.

Michael (2001), the analysis of the internal environment (strengths and weaknesses), consists of: Strengths of resources, skills or other advantages relative to competitors and the needs of the community served or wants to be served by the organization; weaknesses i.e. limitations or deficiencies in resources, skills and capabilities that seriously impede the effective performance of the organization. Distinct competencies are the strengths of a company that competitors cannot easily match or imitate, valuable capabilities, rare capabilities, imperfectly imitable capabilities, that cannot be replaced (nonsubstituable capabilities). Wheelen and Hunger (2001), a competitive strategy is a business strategy that focuses on improving the competitive position of a company’s products and services in an industry or specific market segment that the company serves and overcoming the problem of how the company and its units can compete in business and industry. Further Cravens (2008) describes the quotation of Day and Wensley who argue that competitive advantage should be viewed as a dynamic process rather than an end result. The process consists of a source of excellence, position advantage, and achievement of the end result of a profit investment to maintain excellence. The sources of competitive advantage are: Skills, resources and superior control.

David (2009), important strategy-formulation techniques can be integrated into a three-stage decision-making framework consisting of input stage, matching stage and decision stage. The first stage, the input stage, summarizes the basic information needed to formulate a strategy Jay, (2007). The second stage, the matching stage, focuses on creating feasible strategic alternatives by matching key external and internal factors. The third stage, which is the decision stage for objectively evaluating feasible strategic alternatives and thus, provides the basis for

**Table 1: Stages of strategy formulation**

<b>Stage 1: Input Stage</b>				
Matrix external factor evaluation-EFE	Matrix competitive profil matrix-CPM	Matrix internal factor evaluation-IFE		
<b>Stage 2: Matching stage</b>				
Matrix threats-opportunities-strength-TOWS	Matrix strategic position and action evaluation-space	Matrix boston consulting group (BCG)	Matrix internal-eksternal (IE)	Matrix grand strategy
<b>Stage 3: Decision stage</b>				
Quantitative Strategic Planning Matrix-QSPM				

Source: David (2009). TOWS: Threats, opportunities, weakness, strength

the goal of choosing a specific strategy. The tools presented within this framework, can be used for all sizes and types of organizations. The following is a framework model for the strategy formulation (Table 1).

**Table 2: Internal key factors PT. BIJB**

Internal key factors PT. BIJB	Score
<b>Strengths</b>	
Competence of qualified and experienced human resources	3
Completed services/products offered both transportation, hospitality, offices and other businesses	4
Strategic location of aerocity (near Karawang industrial area)	3
National pilot project in the development of aerocity concept	4
Aerocity supporting transportation facility such as toll road, fast trains, and others	3
<b>Weakness</b>	
Limited funds in Business development	2
Pattern of Joint Operation with PT. Angkasa Pura II	1
Lack of operational and marketing personnel.	2
Continuous operational plan of Husein Sastranegara Airport	2
Staff turnover is high in the operational and marketing sections	2

Source: Data processed

**Table 3: Interview result of external factor score, score of PT. BIJB**

External key factors PT. BIJB	Score
<b>Opportunities</b>	
Increased volume of world trade	3
Increased growth of passenger air transportation of West Java (domestic and International)	4
Government regulation to increase export volume	3
Tourism Growth in West Java	4
Opening opportunities for cooperation with International partners	3
<b>Threats</b>	
Missed Flight Safety Risk	2
Increased Urbanization Society West Java	1
lack of infrastructure support and bureaucratic system in Indonesia	2
Invasion of Foreign Workers as a condition of investment cooperation	2
Inter-country stability that may disrupt Transport Business	1

Source: Data processed

**Table 4: IFE matrix**

Internal key factors PT. BIJB	Weight	Rank	Weighted average
<b>Strengths</b>			
Competence of qualified and experienced human resources	0.068	3	0.204
Completed services/products offered both transportation, hospitality, offices and other businesses.	0.224	4	0.896
Strategic location of aerocity (near Karawang industrial area)	0.099	3	0.297
National pilot project in the development of aerocity concept	0.100	4	0.400
Aerocity supporting transportation Facility such as toll road, fast trains, and others	0.161	3	0.483
<b>Weakness</b>			
Limited funds in business development	0.153	2	0.306
Pattern of joint operation with PT. Angkasa Pura II	0.056	1	0.056
Lack of operational and marketing personnel	0.051	2	0.102
Continuous operational plan of Husein Sastranegara Airport	0.040	2	0.080
Staff turnover is high in the operational and marketing sections	0.048	2	0.096
<b>Total</b>	<b>1.00</b>		<b>2.920</b>

Source: Data processed

### 3. RESEARCH METHODS

The research method used is descriptive qualitative method, that is method which aim to help solve the problem which aim to help solve the problem that happened at the present time and centered on the actual problem. Descriptive method describes the nature of something that is going on at the time of research done and examined the causes of a particular symptom (Sugiyono, 2000).

To formulate a strategy, it consists of three stages. First, the input stage uses the external factor evaluation (EFE) matrix and the internal factor evaluation (IFE) matrix. Second, the matching stage uses the TOWS matrix (Threats, Opportunities, Weakness, Strength). The preparation of the IFE matrix is derived from an evaluation of the company’s internal factors, while the EFE matrix is derived from an evaluation of the firm’s external factors. Weight value obtained from the calculation using analytic hierarchy process (AHP), that is with Expert Choice 2000 software support made after known priority scale among elements of existing factors through the filling questionnaire given to Strategic Team PT BIJB. Weighting is needed to find out which key factors are most influential to the company. For rankings, the value is also determined based on information from the results of questionnaires given to Strategic Team PT BIJB. From the calculation of weight and rank, it will be obtained a value which then the overall value will be added. Companies are usually considered to have strong internal conditions and are able to overcome weaknesses, and have a good response to opportunities and threats if the final total value is above the average value of 2.5.

### 4. RESULTS AND CONCLUSIONS

The results of the analysis of internal factors of firms, namely strength and weakness and extensions include opportunities and threats are presented in Tables 2 and 3.

IFE matrices use data from weighted results with calculations using AHP, which results are described in the Table 4.

Based on the results of IFE Matrix above, it is known that internal factors of PT. BIJB has a value of 2.920. According to David (2009), no matter how many factors are included in the IFE Matrix,

**Table 5: EFE Matrix**

External Key Factors PT. BIJB	Weight	Rank	Weighted average
<b>Opportunities</b>			
Increased volume of world trade	0.080	3	0.240
Increased growth of passenger air transportation of West Java (domestic and International)	0.063	4	0.252
Government regulation to increase export volume	0.132	3	0.396
Tourism Growth in West Java	0.218	4	0.872
Opening opportunities for cooperation with International partners	0.064	3	0.192
<b>Threats</b>			
Missed Flight Safety Risk	0.090	2	0.180
Increased Urbanization Society West Java	0.075	1	0.075
lack of infrastructure support and bureaucratic system in Indonesia	0.111	2	0.222
Invasion of Foreign Workers as a condition of investment cooperation	0.084	2	0.168
Inter-country stability that may disrupt Transport Business	0.083	2	0.166
<b>Total</b>	<b>1.00</b>		<b>2.763</b>

Source: Data processed

the total weighted average values range between the lows of 1.0 and the 4.0 highs, with an average of 2.5. Total values well <2.5 are weak internal organizational traits, while total values well >2.5 indicate strong internal organizational traits. PT BIJB with a total weighted average of 2.920 points out that the company’s strategy to capitalize on strengths and minimize weaknesses is above average and internal conditions tend to be strong. For EFE matrix calculations are presented in the Table 5.

Based on the results of the above EFE Matrix, it is known that the external factor of PT BIJB has a value of 2.763. As with the IFE matrix, regardless of the number of key opportunities and threats included in the EFE matrix, the weighted average total is between the lows of 1.0 and the 4.0 high with an average of 2.5. Although the value of external factors of PT BIJB is above the average of 2.5, PT. BIJB shall keep maximum effort to exploit external opportunities and avoid threats that may affect the company.

### 5. CONCLUSION

From the TOWS matrix analysis results (Table 6) that can be concluded that there are four strategies that can be applied by PT. BIJB in conducting Aerocity business that is: (1) Market

**Table 6: TOWS matrix**

	Strengths – S	Weakness – W
	Competence of qualified and experienced human resources Completed services/products offered both transportation, hospitality, offices and other businesses Strategic location of Aerocity (near Karawang industrial area) National pilot project in the development of Aerocity concept Aerocity supporting transportation facility such as toll road, fast trains, and others	Limited funds in business development Pattern of joint operation with PT. Angkasa Pura II Lack of operational and marketing personnel. Continuous operational plan of Husein Sastranegara Airport Staff turnover is high in the operational and marketing sections
<b>Opportunities – O</b>	Work on existing opportunities by offering flexible products and services (S3, O4) <b>Market development strategy</b>	Make efforts to increase market share by establishing intensive cooperation with other airport companies. (W4, O2, O3) <b>Horizontal integration strategy</b>
Increased volume of world trade Increased growth of passenger air transportation of West Java (domestic and International) Government regulation to increase export volume Tourism growth in West Java Opening opportunities for cooperation with International partners		Rotate human resources by diversifying the business that leads to the center of business Airport by working on related business units throughout the aerocity region (W5, O4) <b>Market development strategy</b>
<b>Threats – T</b>	Undertake product development, not only focus on Airport and airline services, but offer other service products supported by flexible products or services of PT BIJB. (S3, T4) <b>Market development strategy</b>	Cooperate or joint venture with overseas aerocity companies (especially Asia Pacific Region) to form the business aerocity alliance (S5, T3) <b>Horizontal integration strategy</b>
Missed flight safety risk Increased urbanization society West Java Lack of infrastructure support and bureaucratic system in Indonesia Invasion of foreign workers as a condition of investment cooperation Inter-country stability that may disrupt transport business	Cooperate or joint venture with overseas Aerocity companies (especially Asia Pacific Region) to form the Business Aerocity alliance (S5, T3) <b>Horizontal integration strategy</b> Opening home industry business opportunities in the Aerocity Area that involves the surrounding community as a value added company and also social responsibility for the community <b>Market penetration strategy</b>	Developing tourism business in West Java to support economic growth in the region around aerocity. <b>Market development strategy</b>

Source: Data processed. TOWS: Threats, opportunities, weakness, strength

development strategy, increase product sales in the market by strengthening aspects of promotion, with more effective and varied advertising according to the target market in a different but down to earth approach. (2) Horizontal integration strategy, a situation where a company integrates the production of goods and services that are still in one production stage in the supply chain, either through internal expansion, acquisition, or merger. (3) Product development strategy, a growth strategy in which the company focuses on selling existing products in existing markets, maintaining and increasing market share products, can be achieved and a combination of competitive pricing strategies, advertising, sales promotions and maybe more personal resources are dedicated to selling. (4) Market penetration strategy, a growth strategy where the company focuses on selling products that exist in the market-market that already existed before by promoting so that buyers are more interested and choose to stay on the products produced by old companies.

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