

# THE POTENTIAL OF BANDUNG TECHNO PARK CORE RESOURCES AS TOURIST ATTRACTION

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## *Abstract*

*Bandung Techno Park (BTP) is a Science Park which was established with the primary purpose as a center for technology development and innovation. In the process, Bandung Techno Park attracts many visits from various circles, indicating that at Bandung Techno Park there are resources that could potentially be a visitor attraction. This study aimed to identify the resources of the core (core resources) in Techno Park that can be used as tourism appeal. Method used in this study is the observation to the location of Bandung Techno Park to take the visual data and make records. Then, for more detailed information we conducted a live interview with the manager and the architect as the main resources. From research result it was found few resources of the core attraction in the area of information and communication technology (ICT). Also it was found edutainment concept of the architecture of Bandung Techno Park. The findings of such products as core resources, namely: Mobitick (Mobile Ticketing), U-Kit, Smart Parking System, Posture Check, Incinerator and School Presence System. As the Core resources were identified Techno Park, in this region are expected to be developed into a tourist attraction and become choice of alternative tourism in South Bandung. Further study of the results of this study can be continued for the development of Techno Park as an education tourism product.*

*Keywords: Core Resources, Techno Park, Tourist Attraction*

## **Introduction**

Increasing tourist visit to the city of Bandung today has significant impact on the development of the city of Bandung. Among other things all stakeholders are competing to facilitate travelers' needs both in terms of accommodation, transportation, as well as a tourist destination itself. To meet these needs one of the ideas is by initiating one education-nuanced tourist attraction. This is in line with the preparation of the action plan of Culture and Tourism Department of West Java Province. Strategically launched by the Leading Tourist Area Development (LTAD) policy of urban and education, including Bandung and surrounding areas. Urban and tourist areas of education include the city of Bandung Bandung, Cimahi, Sumedang and Bandung regency. The leading tourist area development (LTAD) of West Java province in the report consists of 9 (nine) areas:

- a. Industrial and Business Area Tourism of Karawang Bekasi
- b. Agro-Tourism Regions of Purwakarta-Subang

- c. Cultural Tourism of Cirebon Coastal Zone
- d. Natural Tourism Region of Puncak Mountains
- e. Urban Tourism Regions and Education of Bandung
- f. Handicraft and Culture Tourism Regions of Priangan
- g. Ecotourism region of Pelabuhan Ratu
- h. Special Interest Tourism Region of South West Java
- i. Recreation Tourism regions of Pangandaran Beach

Telkom University which is currently managed by Telkom Foundation has a business unit of the Bandung Techno Park. BTP is a vessel that is destined to realize an information society in Indonesia. Information Society Indonesia is people who have the willingness and the ability to manage information in order to improve the welfare and have intellectual life. BTP sees itself as one of the elements of society that can be a driving force for the formation of the Information Society Indonesia (ISI) as an integral part of the Global Information Society (GIS), through creation, innovation and the use of Information and Communication Technology ( ICT). In its development, there is a unique phenomenon that appears associated with the presence of BTP, namely by increasing visits not only from the ICT but also of the general public who want to know where Techno Park is especially after the visit of President Jokowi in January 2015 which has had a positive impact to BTP, namely the increasing demand for visits. The main things that attract people are the result of BTP technology and innovation in the form of products that can be commercialized. In fact not all of these products are always available at the gallery display. The next thing to be a tourist attraction BTP is its architectural concept of the building. BTP architectural concept is unique so that drawing visitors to find out more. For that it needs to be explored for its further potential of core resources owned by Bandung Techno Park which can be a visitor attraction.

## **Literature Review**

### **The Concept of Techno Park**

The Concept of Science Park or Technology and Research Park is a facility designed to facilitate production and commercialize the latest technologies with the synergy of researchers, educational institutions and companies based technology (Petree et al 2000: 3). Meanwhile, according to The International Association of Science Park defines Science Park is as follows:

- *A property-based initiative, Which has formal and operational link with universities or other higher educational institution or major center of research ;*
- *Designed to encourage the formation and growth of knowledge-based*

- *industries or high value added forms, normally resident on site; and*
- *Has a steady management team actively engaged in fostering the transfer of technology and business skills to tenant organizations.*

Companies involved in the Techno Park is usually a small company that is a beginner in developing products. Further Petree et al (2000: 3) explains the role of Techno Park which is expected to provide the following:

- *Corporation in R&D Scientific research institutes and laboratories;*
- *Financial consulting and assistance in obtaining venture capital;*
- *Professional, technical, administrative and legal assistance ;*
- *Information and telecommunication services; and*
- *Supportive business infrastructure*

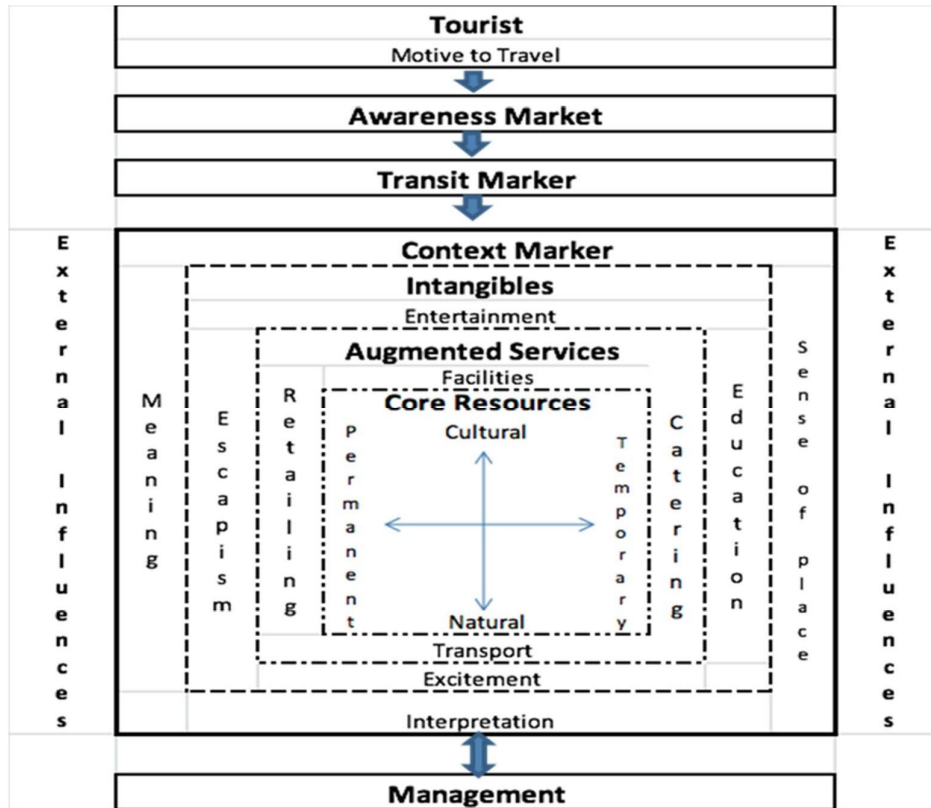
### **The Concept of Tourist Attraction**

Tourist attraction is often described as a key component of the tourism industry where tourist attraction can stimulate one's desire to travel and is a key factor in customer satisfaction. This is in line with what is proposed by Gunn (1994), namely "*Tourist attractions serve two key functions in the system: they stimulate interest in travel to a destination, and they provide visitor satisfaction*".

### **Travel Attractions Framework**

The concept of tourist attraction can be seen in terms of the flow of tourist attraction proposed by Benckendorff in Buchalis Et all about attraction megatrend (2006: 201). The following are the Framework of Tourism Appeal:

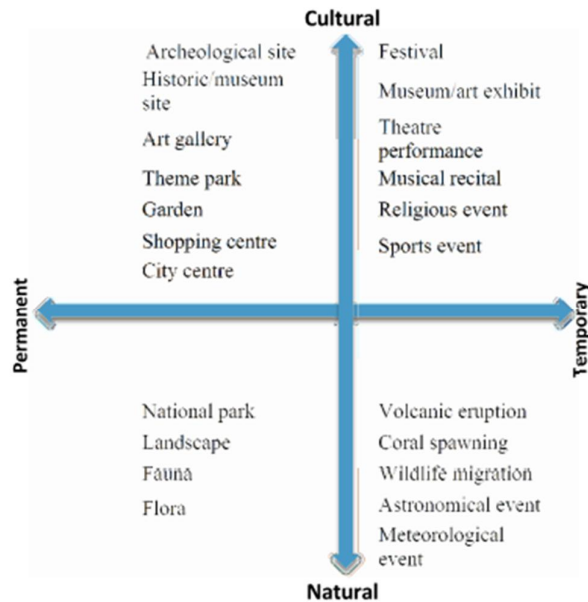
Figure 1: Framework of Tourist Attractions



### Core Resources

According to Benckendorff in Buchalis and Costa (2006: 201), Core Resources is *the sight* (MacCannell, 1976), *nucleus* (Gunn, 1988a; Leiper, 1990a) or *imagescape* (Wanhill, 2003). The concept of Core Resources can be classified into the following matrix:

**Figure 2**



Source: Benckendoff In Buchalis & Costa (2006: 203)

### **Conceptualizing the Core Resources of Tourist Attraction**

Seen from Figure 2 above that there are two axes, each of which has two poles. The first axis shows the tourist attraction with permanent or temporary nature. While the other axis shows the tourist attraction that is natural or cultural.

### **Typology of Travel Attractions**

In view of Swabrooke in Nowacki (2013: 15), an appeal can be divided into several typologies. This typology can be seen from three viewpoints i.e. *ideographic perspective*, *Organizational perspectives* and *Cognitive perspective*. From the viewpoint of typology ideographic is divided into four typologies of attraction is based on the source that is comprised of (1); *natural*, (2); *man-made but not originally designed primary to attract visitors*, (3); *man-made and purpose-built to attract tourists* and (4); *special events*.

Appeal which is *man-made attractions*, according to Burton (1995: 54) must meet several needs of visitors. First the needs of visitors of entertainment, relaxation and social contact. for example thematic park, shows, theater, festivals. In addition, visitors ' needs of consumerism, namely the need to purchase of a

product and valuable goods, such as shopping, or visiting the exhibition. Burton (1995: 55) describes the characteristics of facilities that meet these requirements include:

- *They appeal to the tourist, day trippers and non tourist.*
- *They rely on the mass market for their economic viability.*
- *They generally require high levels of investment and fairly high of business ventures.*

Some literature more likely to use the term *visitor attraction* compared to *tourist attraction*. According Swabrooke in Nowacki (2013: 11) "*most visitors are not tourists, but residents or day trippers*". Where most of the visitor or visitors are not tourists who travel to stay but they are residents of the city or those who travel in a day.

## **Methodology**

### **Research design**

This study used a qualitative descriptive approach. Utama & Mahadewi (2012: 119) in their book, *Tourism and Hospitality Research Method* explained that a qualitative approach is an understanding of the research process and methodology which investigates a phenomenon of social and human problems.

According Gulo (2002: 18-19) descriptive research is "a study based on the basic question of how. The purpose of this study was conducted to determine how the incident occurred. The advantages of qualitative research methods is the ability to express the phenomenon in detail so as to provide enlightenment and complex details which can not be revealed by quantitative methods.

### **Data Collection Technique**

Techniques in data collection is a strategic step in the research. Since the purpose of a research is to obtain accurate data. In this study, the data collection technique is closely associated with the instrument or instruments to obtain data. Utama & Mahadewi (2012: 119) describes in qualitative research, the researcher is the key instrument.

In this research, data collection techniques used by researchers namely:

- a. In-depth interviews
- b. Documentation Studies
- c. Observation

## **Data Analysis Technique**

The data which has been collected and grouped, simplified and interpreted and analyzed (Silalahi, 2009: 332). The steps done in analyzing the data is to follow the model of interactive data reduction, data display, conclusion and verification, as well as Sugiyono triangulation technique techniques (2012: 247)

## **Results and Discussion**

### **History and Profile Bandung Techno Park (BTP)**

BTP is a vessel that was created to bring information society of Indonesia with the forming of the ICT (Information Communication and Technology) resources who are competent and competitive. BTP location is in the Education area of Telkom (Bandung Technoplex) Telecommunications Canal Street Buah Batu, Dayeuhkolot Bandung, Bandung, West Java, Indonesia 40257. Initially BTP only consisted of two parts, namely the Technical Services Unit of Information and Communication Technology (TSU ICT) in 2007 and Telecommunications Design Center (TDC) in 2009. In 2010 BTP then formed a further part of the so-called e-Camp (Business Incubator). At that time the location was in the Learning Center at the College of Technology Telkom (STT Telkom). On March 11, 2012, new location was inaugurated with the name of Bandung Techno Park, in an area that later became the University of Telkom (STT Telkom inaugurated as a university in 2013). BTP was born and formed with the aim to generate sustainable innovation products, to produce innovation based on technology, to yield start-up company based on technology and the commercialization of research results. The business focus of BTP itself consists of 8 business focuses, namely, (1); *Research and Development (R&D)*, (2); *Educational Trainnig / Training centre*, (3); *Consultancy*, (4); *Facility Provider*, (5); *Business Mediation*, (6); *Information Distribution*,(7); *Certification*, dan (8); *Production Support*.

### **Research result:**

From this research some core resources obtained in Bandung Techno Park. Core resources are the product of information and communication technology (ICT), Seminars & workshops and BTP building itself.

### *Building & BTP Facilities*

Buildings and facilities in BTP planned to consist of 11 core buildings to be constructed in stages. The masterplan of the area of Bandung Techno Park is as follows:



**Figure 3**

### **Bandung Techno Park Area Masterplan**

BTP currently has 2 whole buildings namely *main building* and 1 *Research and Business Development Building*. While the overall plan of the building is a total of 11 buildings, which is as follows:

1. *Main Office*
2. *Training and Certification Building*
3. *Industrial Partner Building*
4. *Data Center Building*
5. *Exhibition Building*
6. *Warehouse Building*
7. *2 Research and Business Development Buildings*
8. *3 other Buildings for Startups*

Facilities available now at the main office at this time include:

1. *Sport Room*
2. *Cafe*
3. *Refresh Hall*
4. *3D Printing Room*
5. *Multi Media Room*
6. *Display Product Room*
7. *Training Room*
8. *Meeting Room*
9. *Mushala*
10. *Co-working Space*





**Figure 4**

**Main Office**

The services provided Bandung Techno Park is currently in the form:

1. Production Support
2. Consultancy
3. Business Mediation
4. Innovation Center

Observations

Information and Communication Technology Product Results

The following are the products produced by BTP:

1. Mobitick (Mobile Ticketing) Mobitick is economy class bus tickets payment system which helps bus operators to print the corresponding original passenger tickets departure and destination with GPS-based. This technology can help operators reduce losses due to fraud of bus passengers or bus crew. At the time of Mobitick issuing a ticket, the system sends the data to a server that contains the number of tickets have been issued in accordance to departure and destination and the cost for the trip. With such system bus company will be able to estimate their income objectively. This application can be installed on a platform that uses the Android operating system.



**Figure 5**

### **Mobitick Ticketing Application**

As for the features possessed by mobitick are as follows:

- a. *GPS Integration*, objectively determine the point of departure.
- b. *Wireless Thermal Printer*, to print the ticket
- c. *Integrated Storage System*, using SD Card
- d. *Data Transmission Capable*, GPRS based system.
- e. *Web Based Monitoring*, to coordinate and track the presence of a bus
- f. *Report Management*, provide daily report, weekly and monthly for each transaction
- g. *Android Based Platform*, can be easily installed on android and tablet
- h. *Application Server Included*, can provide a solution.



**Figure 6**

### **Mobitick Work system**

2. U KIT is a microcontroller practice Kit. U KIT can be used as a medium of learning in electronic hardware particularly microcontroller. This tool can learn simple control system with analogue and digital inputs, a simple mechatronic actuators with DC output motors, stepper motors and servo motors. Currently the product U KIT has been used by some schools and colleges in several big cities in Indonesia such as Jakarta, Medan, Makassar, Malang, Purwokerto and Banjar Baru. U KIT has five advantages namely (1); neatly wrapped in an aluminium suitcase; (2) almost all the functions of the microcontroller is used; (3) using two types of microcontroller (ATMEGA & ATTINY) so that students can get to know some kind of microcontroller on the market; (4) using internal power supply, so it only needs the power cord to turn on the toolkit and (5); equipped with practice module and support forum via the Internet.

Figure 7: U KIT



The following features are owned by U Kit product:

a. Power Supply

- b. ATMEGA & ATTINY *microcontroller*
- c. AVR ISP *Programmer*
- d. USB to serial with FTDI chip
- e. Real Time Clock Circuit
- f. *Serial Communication*
- g. 8 Bit 8 Bit LED and switch toggle
- h. LCD Character 16x2
- i. 4x4 *Keypad*
- j. 6 digit *seven segment* display
- k. 3m *Phototransistor*
- l. LM 35 analogue light sensor
- m. LDR analogue *light sensor*
- n. *Rotation Sensor*
- o. *Controlled* DC Motor
- p. *Controlled* Standard servo motors
- q. *Controlled* Stepper Motor
- r. *Relay* Switch for 220 VAC

### 3. Smart Parking System

*Smart Parking System* is a product of Bandung Techno Park which provides integrated requirements in parking equipment, *parking software, hardware, systems integration, and consulting services* for parking management. Smart Parking System is more efficient, with the concept of go green, and more prestigious than the parking systems which are already on the market. The go green concept means this parking system uses RFID technology which is membership card is used as entry and exit access. This system does not use the paper as a parking ticket.

Smart System Parking System uses embedded systems technology, device integration, management solutions, and parking software overall. These systems provide innovative technology solutions for parking management entrepreneurs in Indonesia.



**Figure 8**  
**Smart Parking System**

4. Posture Check is a thorough posture inspection tool. This tool is used to select prospective employees, especially in the Indonesian National Army (TNI). The system gives an overview and detect if there are abnormal postures. The results given by this tool are in the form of quantitative data or value to determine whether the candidates qualify for selection or not. With a webcam system we can see if any abnormalities are found on the body of the prospective employees. The existing features of posture check is as follows:

- a. Detect abnormal posture
- b. Abolish the results of the document system
- c. Provide a more objective assessment
- d. Easy to use with minimal equipment
- e. Getting accurate results quickly

5. Incinerator is a breakthrough innovation that was created by Bandung Techno Park to manage waste incineration. This tool uses the medium of water mixed with diesel as fuel. The water is then split into hydrogen as an additional fuel to make heat in the combustion process becomes high. This BTP Incinerator goes through three times treatment process to neutralize toxins and combustion smoke so that the result of garbage burning only in the form of hot air that is not harmful to the environment.

BTP incinerator is designed to scale a community group (RW) range or Office / Housing complex. So it is expected garbage is completed at level of RW / complex and the garbage manager does not need to transport garbage and waste

management hereafter. Until burned at a temperature of 800-1200 degrees, garbage becomes ash (carbon) which further the carbon ash can be used as supporting agricultural fertilizer.



**Figure 9**  
**Incinerator**

Five Advantages of BTP Incinerator namely:

a) Water Fuel.

b) Diesel fuel and water in the ratio of 1 : 3

c) Perfect Combustion

Combustion chamber temperature of 800-1200 C. Destroying all types of wet and dry garbage.

d) Environmentally Friendly

The resulting smoke does not contain harmful substances

e) Continuous System

Open and close system in which combustion can be carried out continuously that requires the burner is turned off and cooled down while entering a new garbage.

f) Locally made

6. *School Presence System* is a system created to facilitate the presence at schools that no longer require manual attendance for every subject. The system uses RFID as a detector.

Figure 10: School Presence System

**SCHOOL PRESENCE SYSTEM**  
V SP 1113P

**CONTACT US: 022-88884200**

**ABOUT PRODUCT**  
School Presence System offers technology solution for your school presence management. Using RFID as a detector on permission card and integrate to student management software.

**FEATURES PRODUCT**

1. RFID Based Technology
2. Student Management
3. School Attendance
4. SMS Gateway

**PRODUCT SERIES**

V RAS 312P    V OP 2012L    V SP 1113P    V CP 3108L

Website: [www.immersa-lab.com](http://www.immersa-lab.com)    Powered by BANDUNG TECHNO PARK

Features - features of the School Presence System is as follows:

- a. RFID Based technology*
- b. Student Management*
- c. School Attendance*
- d. SMS Gateway*

#### **Interview Result:**

BTP Management:

From interviews with BTP Management, Bandung Techno Park does not mean as a Park but it is a place or vessel to the operation of the start-ups in particular in the field of technology. The main purpose of a techno park is to create a business in the field of technology. BTP's roles are in two major aspects of the development of technology (innovation) and the acceleration of economic growth in the region (instead of national). The sustainable economic growth program has been launched since the first president Mr. Soekarno until Mr. Jokowi. One of the keys of the program launched is the mastery of technology. In the era of President Jokowi, the program swoops on the implementation of 100 Science and Technology Park launch in Indonesia and Bandung Techno Park becomes the main model.

Mr. Yose Ferdian Damury, ST. IAI (BTP Architect):

As with the opinion of BTP Architect, Mr. Yose Ferdian Damury, ST. IAI, according to the architect of Bandung Techno Park, the initial concept of the proposed architecture is based on the concept of edutainment concept of



*Transmitting Valley Center* which is a reflection of the condition of Bandung which lies in a valley surrounded by mountains. Techno Park buildings are desired to avoid being stiff and not too formal, as well as adopting the concept of the park which is more comfortable to visit. The aim is that people want to come and do not hesitate to visit. He stated that the concept of this park should not be separated from the overall concept of the techno park, so the building complex is still comfortable visit. When the architectural concept was proposed, Bandung Techno Park leader (Mr. Jangkung Raharjo) is the most enthusiastic and supportive of the concept. So his vision is to develop and disseminate knowledge to the general public, especially in Bandung. For this reason the concept of architecture should be able to get people interested in coming. This is in line with the ideal concept of techno park.

### **Core Resources Analysis:**

Core Resources found in BTP are the results of technological innovation, as well as guidance services for start-ups in the field of technology and information. BTP is a thematic park with the main attraction products of Information and Communication Technology (ICT) and building architecture. This is in accordance with the opinion of Swabrooke that BTP is one manifestation of the visitor attraction with man-made type *but not originally designed primary to attract visitors*. Characteristically as *man-made attraction* which was suggested by Burton, BTP has elements that can be used as a tourist attraction as visitors would need entertainment, intellectual stimulation, and visitors can see and try to display innovations products. Of the needs characteristic of visitors for consumerism, interested visitors can also buy products of technology and BTP innovation.

The next is BTP building architecture concept. Namely the concept promoted is a reflection of the condition of Bandung city itself which is located in a valley surrounded by mountains. The transmitter symbol of the main building is as a symbol of the concept of "*Center of Transmitting Valley*". From the management of BTP it seems that its position today is to highlight the resources of the field of technology development and offers expertise for the purposes of research projects which will be taken as projects. It is in line with the main concept of Techno Park. On its development, the technological aspects are then able to attract visits from various agencies. National attention has begun to be achieved by BTP so appeal as a place aimed for visit is getting stronger. From interviews with the manager it is known that groups' motivation to visit it generally is to get to know the BTP facilities. So it is more towards the socialization of what the techno-park is. Science and technology park concept which was first adopted by Mr. Jangkung Raharjo in Indonesia. As the first Techno Park in Indonesia if it is observed in terms of the vision, mission, goals and existing facilities, BTP is sufficient as a role model of first techno park in Indonesia. Allegedly since there are launching plans of 100 techno parks in Indonesia by President Jokowi, visits to the BTP also looks quite increasing. With the surge of the visit, the manager of BTP which was at the time of establishment was not prepared to be the center of the visit, feels quite 'overwhelmed' with those visits. Even the managers felt the steps of their main businesses namely in the field of research and services for the start-ups,



begins to feel disturbed. In addition to start-up services and technological innovations, in fact the visitors are also interested to see BTP architecture that is interesting and unique. Therefore, the researchers' observation, BTP architecture actually has the potential to become Core Resources of the region. Architecture in question is other than the main building which has a transmitter symbol, also the offices that surround it later. When research carried out there is one office that has been built. The appeal of this office is on the roof which has a design with grass on it. During several visits, many are keen to go to the top of the grass roof and take pictures there. Even the manager himself admits there is an interest to make it a sort of a place to hold an event.

### **Conclusions:**

Core Resources which are discovered as element forming the core appeal of Bandung Techno Park are two kinds. First, the elements of the products of technological innovation (including training, start-ups coaching, and discoveries of innovation products) which are interesting to be seen by visitors. Secondly, the architectural elements of Bandung Techno Park itself has uniqueness with awards accomplishment at international level. In its planning, elements of architecture could be more powerful because it has a very interesting concept. Concept promoted is the reflection of the condition of Bandung itself which is located in a valley surrounded by mountains. BTP also has a main building which has a large transmitter symbol as a symbol of the concept of "*Center of Transmitting Valley*". It describes the BTP vision to explore and collect knowledge and technology from the public, for then transmitted (distributed) to even wider environment.

### **Recommendation:**

The current Core Resources need to be supported by establishing the existence of Bandung Techno Park as a tourist attraction through the strategic decisions of the managers and the relevant stakeholders. The declaration of Bandung Techno Park as Tourist Attractions area of Bandung Regency is intended to meet the needs of tour options for tourists who have stayed or who will be visiting Bandung, to the residents around the area of BTP, and for the daily tours visitors (day tripper, excursionist ). BTP will be an alternative for excursion visits by the tourists who already visit and stay in Bandung. In addition it needs to be studied more deeply about other aspects of tourist attraction namely the *context markers*, *intangible* and *augmented* service.

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