



# 2018 Airport Survey in Bali

**Kwansei-Gakuin  
University**



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P.20~23

The survey was conducted under the corporation of Ngurah Rai International airport and API magazine.

BANDAR UDARA  
INTERNASIONAL

I Gusti  
**Ngurah Rai**  
BALI

INTERNATIONAL  
AIRPORT



KWANSEI GAKUIN UNIVERSITY

# 1. BACKGROUND

**60** years has been passed since Japan and Indonesia signed a peace treaty and established diplomatic relationship. Japan rated Indonesia as the second largest investor, which the figure indicate the trade between Indonesia and Japan reached about \$33 million in 2017, reflecting an increase of 13.5% from the previous year.



Bali is relatively small island, however, the island offers the nature beauty of oceans and rice paddies, as well as the many manifestation of Balinese culture including some awesome cuisine.

# Sustainable tourism



According to UNWTO, **sustainable society** can be defined as;

**“Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities”**

## 1 Environment

Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.

## 2 Socio-culture

Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.

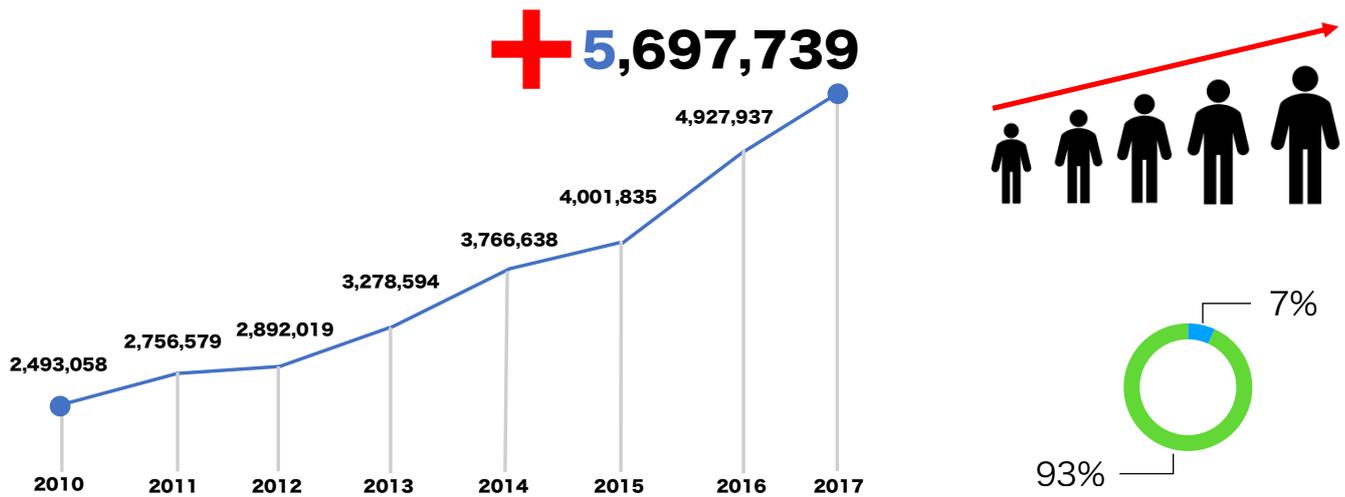
## 3 Socio-economic

Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty

**Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever it is necessary. Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them. The airport took significantly important role to maintain a high level of tourism satisfaction and ensure an awesome experience to the tourists, since the first impression is made in the airport where all tourists go through.**

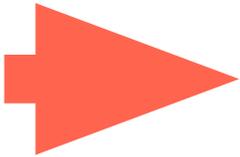


# Tourists Trend



**5,697,739** tourists from **2,493,058**  
(tourist arrival from 2010 to 2017)

**6.8%** GDP contribution of Travel & Tourism

**Goal**  
**2019**  **8,000,000**  
**tourist**

Thanks to the great feature of Bali, the number of foreign tourist arrival has continued to increase and Bali has been awarded the title of 'the best island destination' for 12 years by the DestinAsia Readers' Choice Award (RCA).

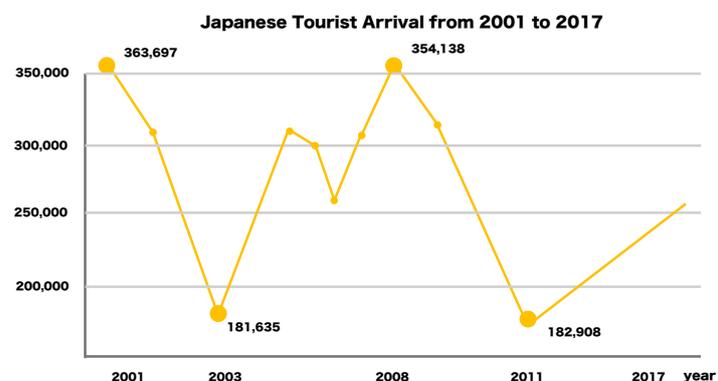
However, there are still serious challenge for the Balinese such as infrastructure to maintain the balance between economic growth and sustainable development.

## The share of tourist arrival by countries in 2017

The 1st dominating country of tourist in Bali is China which is 24.04%, 2nd country is Australia which is 18.68% and 3rd is India which is 4.67%. We can see big difference between 2nd and 3rd. Japan has 4th largest visitors to Bali, which is 4.44% and when it is compared with Chinese tourist arrival, the different is obvious. From 3rd, the figure shows almost same ranging from 4.67% to 2.14%.

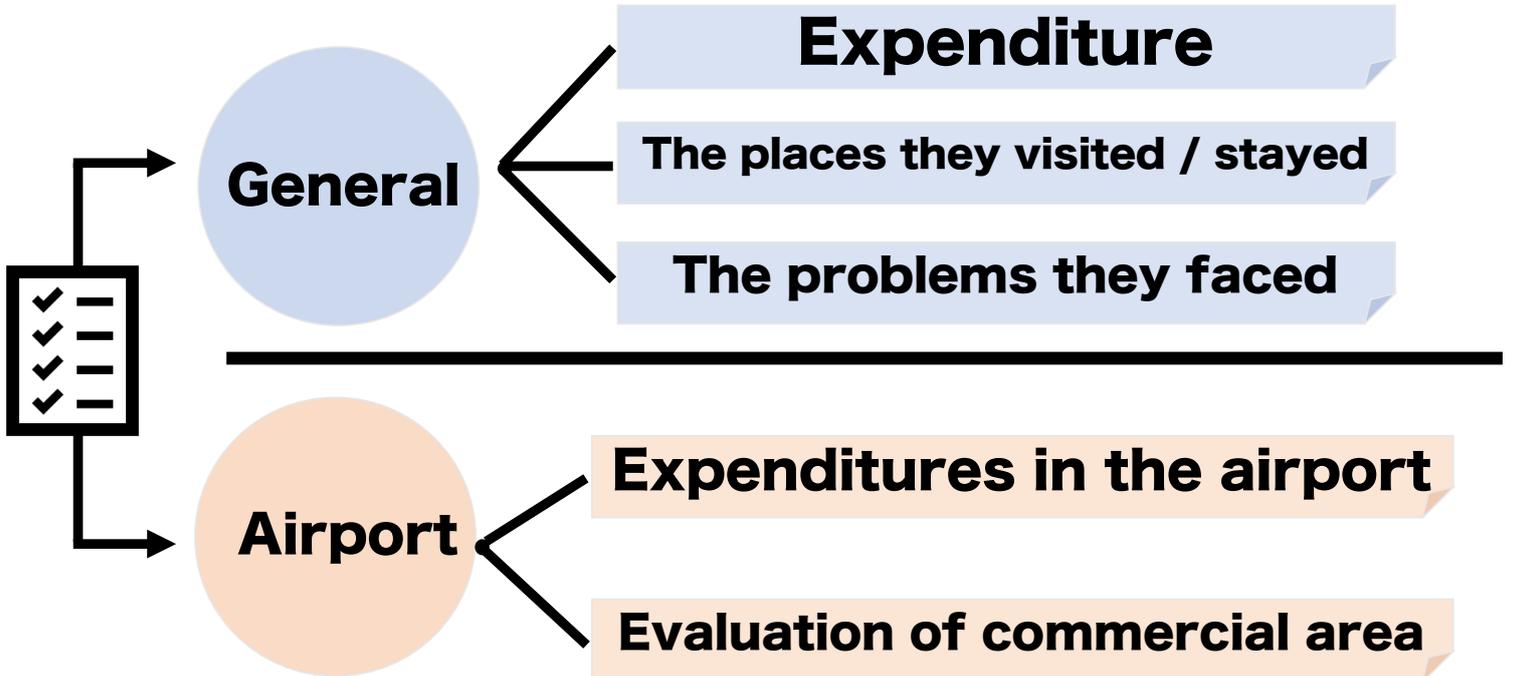
## Japanese tourist arrival from 2011 to 2017

Despite increase in tourist arrival worldwide, the tourist arrival from Japan is pretty fluctuating, it does not increase every year. In 2001 the tourist arrival hit the highest record, which 363,697 Japanese came Bali, however, since then, the tourist arrival actually didn't reach that figure. Because JAL retreated from providing airplane in 2011, it was difficult to travel between Japan and Bali. But thanks to the Garuda airline and LCC such as AirAsia, right now it is easier and more convenient to travel. Since then, tourist arrival is gradually increasing but it does not reach the highest point, which was recorded in 2001 as well as 2008.



## 2. PURPOSE

### (Airport/Tourism Survey)



### (Restaurant Survey)

The quality of service

01

02

The type of advertisement

The Internship

03

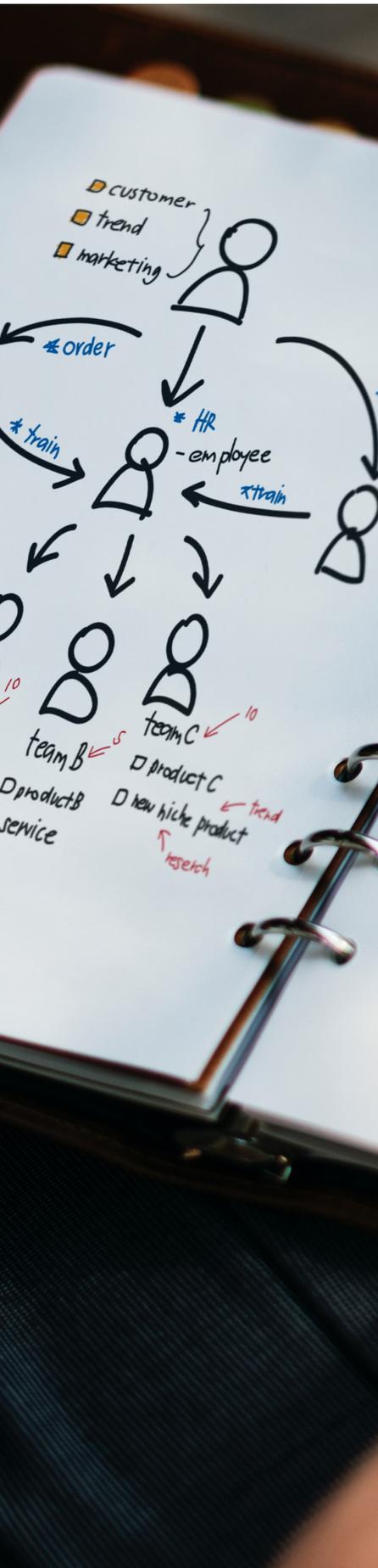
The result of restaurant survey is not LISTED in this report

### <Airport/Tourism survey>

The aim of our tourism survey is to find out what Japanese traveller needs as well as how much was their expenditure in Bali. We conducted tourism survey in the airport under the corporation of Ngurah Rai International Airport and API magazine as well as sightseeing spot where a lot of tourists gather at one place. The survey was divided into two part, General part which is conducted to everyone and airport part which is only conducted in the airport. In General part, we asked about expenditures in Bali, the place they visited and stayed, and problems that they face during staying in Bali. In Airport part, we also asked how much they consumed in the airport as well as the satisfaction in the airport.

### <Restaurant survey>

The demand of restaurant in Bali increase as tourist arrival increase, and it is obvious that people are getting excited to what food they get every situation during the stay. The purpose of the Restaurant survey is to examine quality of the service, the type of advertisement and internship. Udayana University and Kwansei Gakuin University students corporated to this survey, and we spread into 9 tourism places such as Kuta.



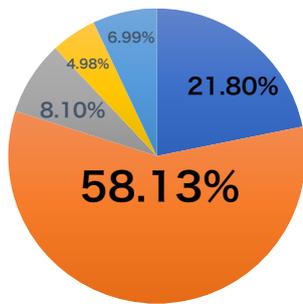
# 3. BASIC INFORMATION



## Information summary

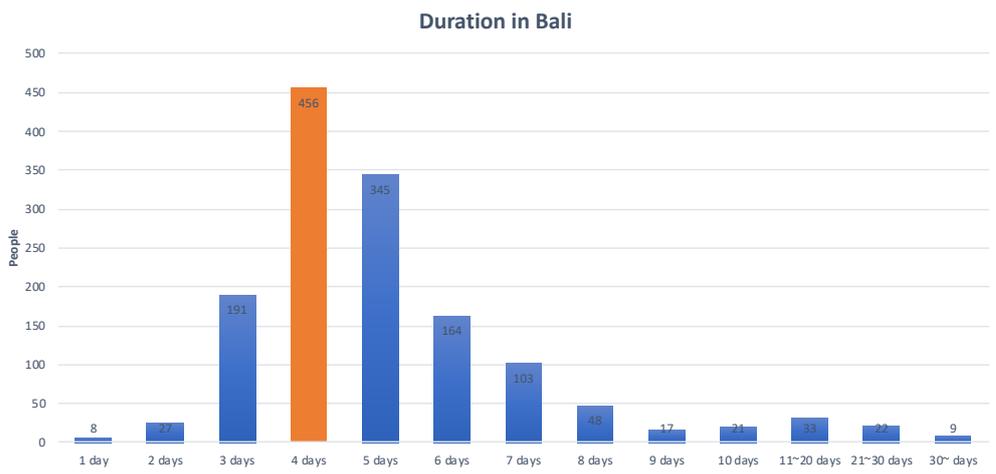
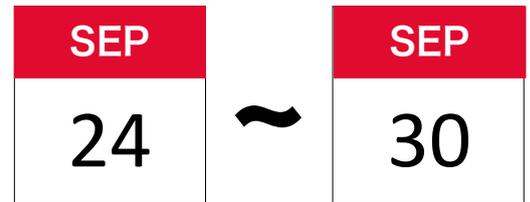
From this page, summary of basic information is showed.

Occupation

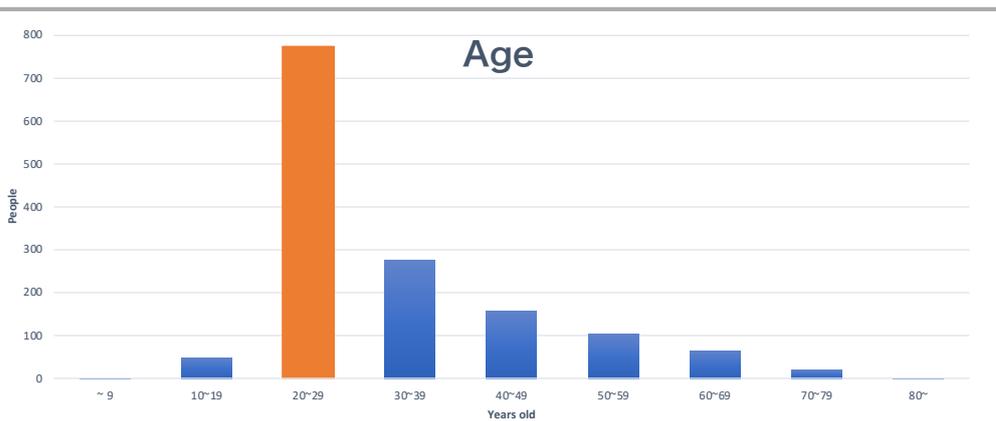
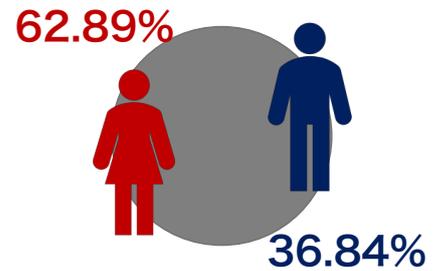


- Student
- Employee
- Household
- Running company
- Other

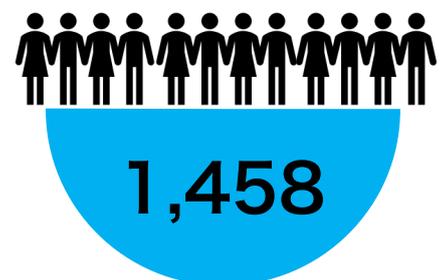
### <Term>



### <Gender>

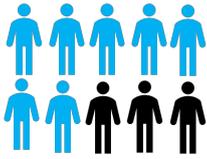


### <Sample>



### <Time visited>

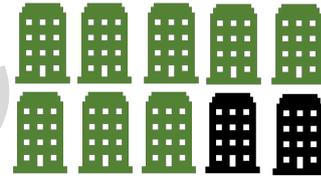
76%



About 76% of travelers are first time to visit Bali

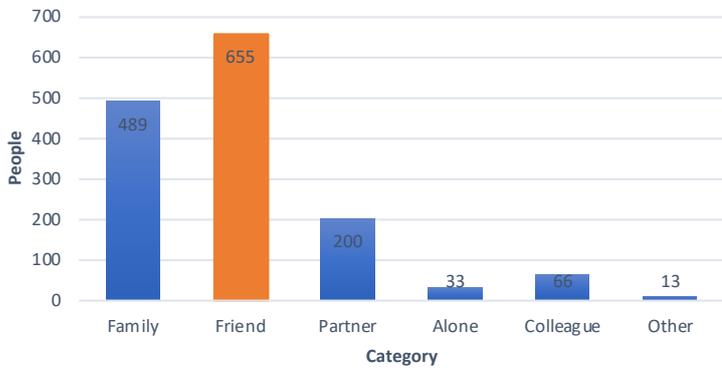
### <Accommodation>

82%

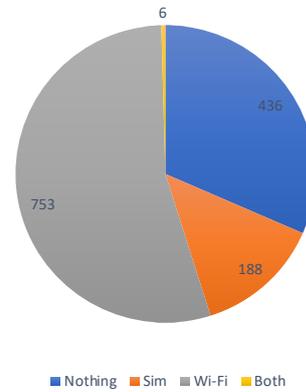


More than 80% of tourist choose hotel as an accommodation

Accompany

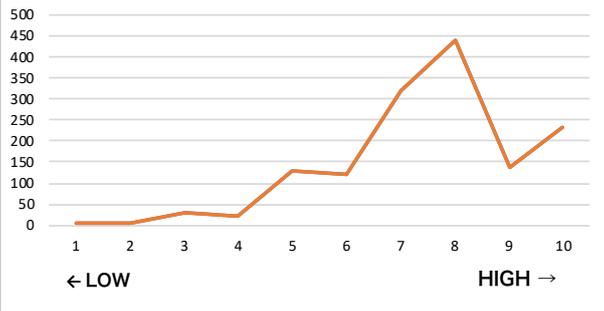


Sim/Wi-Fi usage



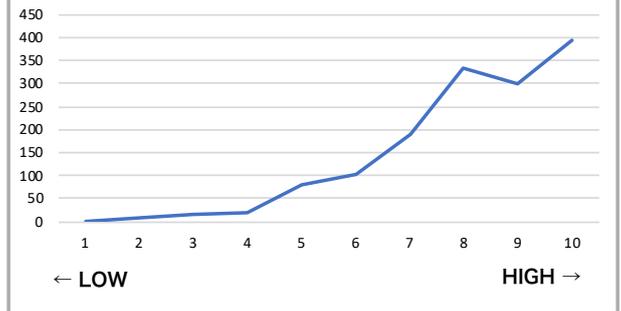
BEFORE

Expectation of Bali

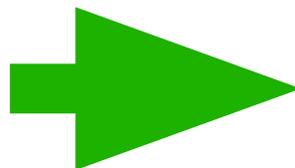


AFTER

Satisfaction of Bali



25.6%



of tourist rated Bali at 9 or 10 before visiting

48.2%

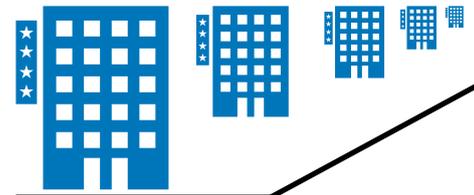
of tourist rated Bali at 9 or 10 after visiting

## <The problems in hotel>

41.6%  
faced nothing



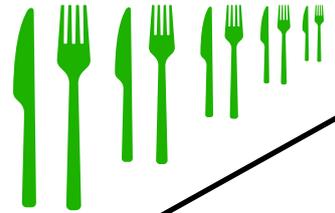
43% faced some  
issues that is related  
to hotel facility



## <The problems in restaurant>

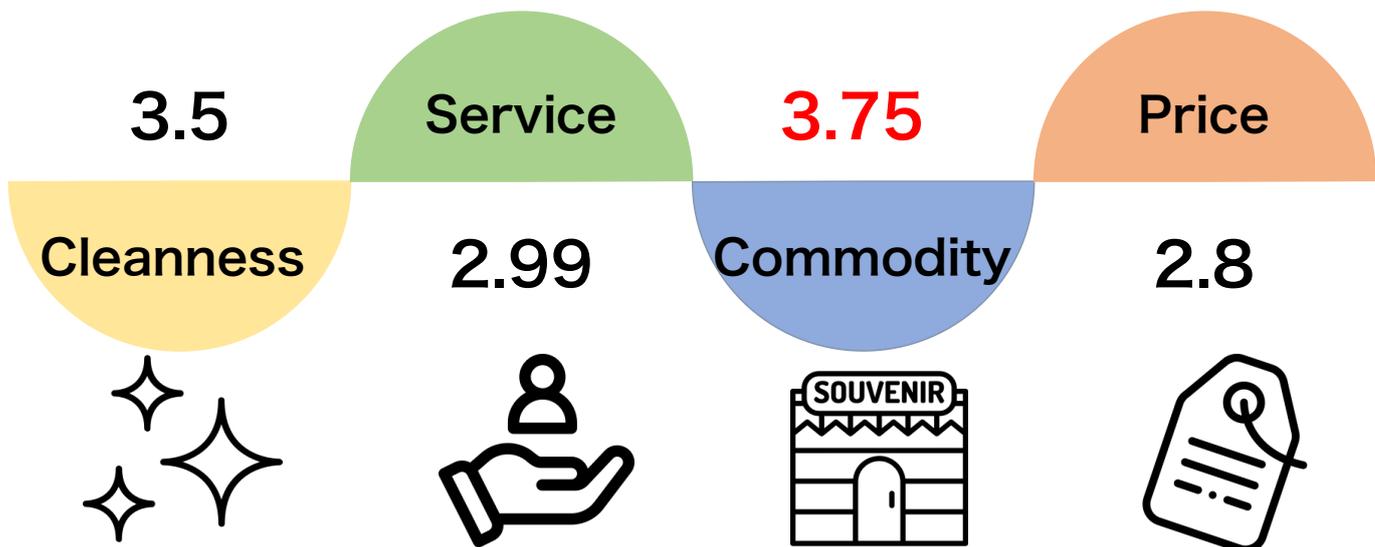
70%

of customers did not face any  
problems in restaurant



## <The evaluation of commercial area>

The commercial area was evaluated by interviewee from FOUR categories, 'cleanness', 'service', 'commodity' and 'price'. Each categories were evaluated out of five, and the figure get fewer, it means it's evaluated less. Average figures are indicated below.



# 4. Survey result

## <Econometric method>

In our research, we assumed that increase in inbound tourists is caused by a high level of satisfaction, therefore the reason of a high level of satisfaction was examined by using cluster analysis. Cluster analysis is the task of grouping a set of objects in such a way that objects in the same group are more similar each other than to those in other groups. After grouping, regression model was applied to know the influence of a high satisfaction level. The explanatory variable is listed below.

### <Explanatory variable>

<b>AGE</b>	<b>From 1~8, according to their age (10s~80s)</b>
<b>SEX</b>	<b>MALE=1, FEMALE=0</b>
<b>MONEY USAGE</b>	<b>The money usage in one day except for hotel and flight fee</b>
<b>SOUVENIR</b>	<b>Have purchased=1, not purchased=0</b>
<b>SATISFACTION</b>	<b>Satisfaction level from one to ten in a trip</b>
<b>SATISFACTION OF HOTEL</b>	<b>No complain towards hotel=1, complained=0</b>
<b>SATISFACTION OF RESTAURANT</b>	<b>No complain towards restaurant=1, complained=0</b>
<b>SATISFACTION OF TOURISM SPOT</b>	<b>Satisfied=1, not satisfied=0</b>
<b>SATISFACTION OF TRAFFIC</b>	<b>No complain towards traffic=1, had complain=0</b>
<b>PACKAGE TOUR</b>	<b>Participate in package tour=1, no=0</b>
<b>TIME VISITED</b>	<b>Have visited Bali more than once=1, first time=0</b>
<b>WTP of A</b>	<b>Willingness to pay of product A</b>
<b>WTP of B</b>	<b>Willingness to pay of product B</b>
<b>WTP of C</b>	<b>Willingness to pay of product C</b>



Product A



Product B



Product C

## &lt;Basic value&gt;

	Obs	Average	Standard deviation	Minimum Value	Maximum Value	Mode
AGE	1423	2.81	1.29	0	8	2
SEX	1424	0.37	0.48	0	1	0
MONEY USAGE	1318	6284.47	5513.75	0	40000	5000
SOUVENIR	1426	0.17	0.37	0	1	0
SATISFACTION	1282	8.32	1.63	2	10	9
SATISFACTION OF HOTEL	1426	0.40	0.49	0	1	0
SATISFACTION OF RESTAURANT	1426	0.65	0.48	0	1	1
SATISFACTION OF TOURISM SPOT	1426	0.82	0.39	0	1	1
SATISFACTION OF TRAFFIC	1299	0.68	0.47	0	1	1
PACKAGE TOUR	1412	0.63	0.48	0	1	1
TIME VISITED	1426	0.23	0.42	0	1	0
WTP of A	1306	445.21	872.43	0	10000	0
WTP of B	1310	311.60	603.94	0	10000	0
WTP of C	1306	424.37	812.36	0	6000	0

## <Regression model> ~satisfaction level~

Regression model of satisfaction level is indicated below.

$$Y = \alpha_0 + \alpha_1(\text{age}) + \alpha_2(\text{satisfaction of hotel dummy}) + \alpha_3(\text{satisfaction of restaurant dummy}) + \alpha_4(\text{satisfaction of tourism spot dummy}) + \alpha_5(\text{satisfaction of traffic dummy}) + \alpha_6(\text{souvenir dummy}) + \alpha_7(\text{money usage}) + \alpha_8(\text{cluster dummy}) + \varepsilon_1$$

, where the dependent variable is satisfaction level.

The result of the regression is listed below. The satisfaction level in the restaurant and hotel have relationship with the whole satisfaction level in the travel. In addition, according to the cluster dummy, when the traveler gets younger, satisfaction level is getting higher, especially, the traveler who comes to Bali more than twice, satisfaction level is relatively higher.

### <The result of regression>

	<b>Coefficient</b>	<b>Standard error</b>
<b>Age</b>	<b>-0.197</b>	<b>0.036***</b>
<b>Satisfaction of hotel dummy</b>	<b>0.035</b>	<b>0.095</b>
<b>Satisfaction of restaurant dummy</b>	<b>0.270</b>	<b>0.01***</b>
<b>SATISFACTION of tourism spot dummy</b>	<b>0.296</b>	<b>0.125**</b>
<b>SATISFACTION OF traffic dummy</b>	<b>0.314</b>	<b>0.098***</b>
<b>Souvenir dummy</b>	<b>0.049</b>	<b>0.133</b>
<b>Money usage</b>	<b>3E-05</b>	<b>9.e-06**</b>
<b>Cluster Dummy</b>	<b>0.386</b>	<b>0.194**</b>

Sample=1187, the coefficient determination=0.0549 (\*10%, \*\*5%, \*\*\*1% level of significant)

## <Regression model> ~willingness to pay~

To estimate the willingness to pay for three products, products A, B and C, the regression model listed below is employed.

$$Y_a = \beta_0 + \beta_1(\text{age}) + \beta_2(\text{sex}) + \beta_3(\text{package dummy}) + \beta_4(\text{satisfaction level}) + \beta_5(\text{money usage in one day}) + \varepsilon_2$$

$$Y_b = \gamma_0 + \gamma_1(\text{age}) + \gamma_2(\text{sex}) + \gamma_3(\text{Package dummy}) + \gamma_4(\text{satisfaction level}) + \gamma_5(\text{money usage in one day}) + \varepsilon_3$$

$$Y_c = \delta_0 + \delta_1(\text{age}) + \delta_2(\text{sex}) + \delta_3(\text{Package dummy}) + \delta_4(\text{satisfaction level}) + \delta_5(\text{money usage in one day}) + \varepsilon_4$$

,where the dependent value is WTP of A, B and C

Product A	Coefficient	Standard error
Age	330.044	156.644**
Sex	313.709	419.749
Package dummy	-504.856	435.823
Satisfaction level	221.036	121.547*
Money usage in one day	-0.7	0.036
Cluster Dummy	1514.956	866.456*

Sample=1102, the coefficient determination=0.0155 (\*10%, \*\*5%, \*\*\*1% level of significant)

Product B	Coefficient	Standard error
Age	40.699	53.264
Sex	-86.339	142.333
Package dummy	-166.964	148.154
Satisfaction level	61.146	41.213
Money usage in one day	-0.025	0.013*
Cluster Dummy	627.676	298.257***

Sample=1110, the coefficient determination=0.0151 (\*10%, \*\*5%, \*\*\*1% level of significant)

<b>Product C</b>	<b>Coefficient</b>	<b>Standard error</b>
<b>Age</b>	<b>511.36</b>	<b>246.721**</b>
<b>Sex</b>	<b>284.038</b>	<b>657.033</b>
<b>Package dummy</b>	<b>-495.788</b>	<b>685.898</b>
<b>Satisfaction level</b>	<b>336.605</b>	<b>189.901*</b>
<b>Money usage in one day</b>	<b>-0.095</b>	<b>0.06</b>
<b>Cluster Dummy</b>	<b>3983.954</b>	<b>1886.495***</b>

Sample=1102, the coefficient determination=0.0195 (\*10%, \*\*5%, \*\*\*1% level of significant)



# Japanese tourist action in the airport



The time duration until boarding to aircraft after luggage inspection is 1~2 hours (39%), 2~3hours (42%), 3~4hours (11%) and 4hours~ (8%). This implies that people who are staying in the airport more than 2 hours is 61% in total. (Refer to graph 1) From our airport survey, it is hard to say that Japanese spent big money in the airport after luggage inspection. According to the data, most people are enjoying shopping after luggage inspection, however, only 34% of them purchase some souvenirs by shopping. (Graph 3 & 4) In addition, average expenditure is not very high, which is about 300,000Rp.

It is also found out that more than 70% of Japanese customers did not use any restaurant and café after luggage inspection. However, because the direct flight to Japan from Bali starts from 22:00, so it is estimated that many people eat outside before coming to the airport. In this report, we mainly focus on expenditure of the souvenirs and find a way to promote the expenditure. In addition, we are going to compare Japanese data and Chinese data.

According to these data, even they are doing shopping and have pretty of time, Japanese tourist is not likely to purchase souvenirs, instead they purchase them outside the airport. Airport can get more customers who actually buy souvenirs by making new approach, therefore we examine the trend of Japanese tourist more detail.

They didn't purchase because 'they have already purchased' (44%) and 'no need' (25%), however 80% of people purchase souvenirs outside the airport. Inside the airport, popular souvenirs such as coffee are found in the shop and visitors can enjoy shopping. From the graph 4, it is estimated that people do not purchase because of the high price.

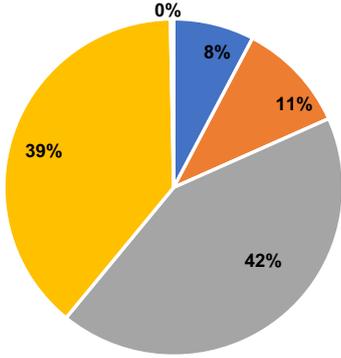
Next, we examine the correlation between airline company and expenditure in restaurant/café. From table 1, the coefficient of Garuda airline is 0.11403, the absolute number of t-value is more than 2 and p-value is less than 0.55. From these figures, we can know tourist is more likely to eat inside the airport when Japanese tourist choose Garuda airline. The result towards the user of AirAsia was opposite. The coefficient of AirAsia is negative. Therefore, tourist is less likely to eat inside the airport when Japanese tourist choose AirAsia. From this result, whether tourist eats inside the airport or not is depending on not only the time of flight but also what airline company choose.

The correlation between purchase of souvenir and air company, Pole airline has weak correlation and AirAsia has negative correlation to souvenirs purchasing. This result indicates that person who choose AirAsia is less likely to purchase souvenirs.

<Japanese tourist trend analyzes about shopping>

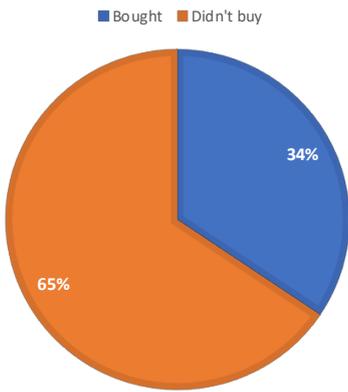
Graph 7 indicates the expenditures of Japanese tourist for souvenirs by ages. The expenditure is less than 400,000Rp for every age, and we can say Japanese tourist expenditure in the airport is low according to this result. The expenditure from 20s is slightly higher than 30s and 40s expenditure, which imply the amount of expenditure does not go up as the age up.

Graph1: The amount of time after procedure



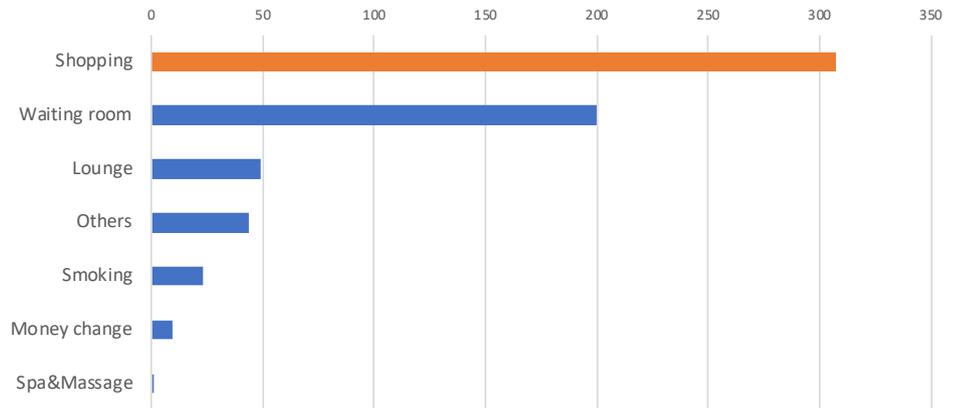
Legend: over 4 hours (blue), 3-4 hours (orange), 2-3 hours (yellow), 1-2 hours (grey), under 1 hour (white)

GRAPH3 : HOW MANY TOURISTS BUY SOUVENIRS

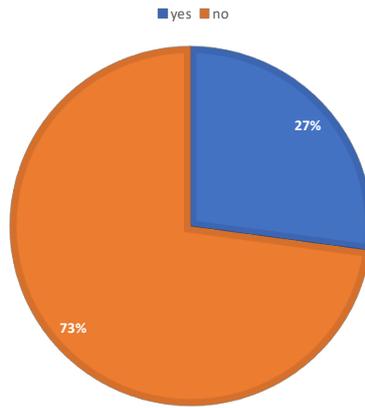


Legend: Bought (blue), Didn't buy (orange)

Graph2 : What tourists were doing after the procedure

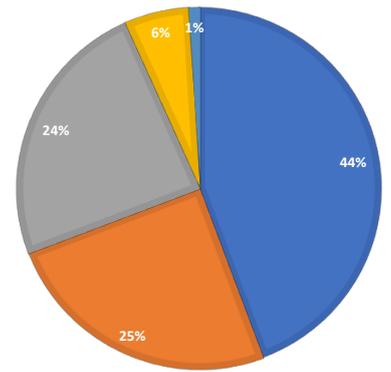


GRAPH4 : EAT IN THE AIRPORT



Legend: yes (blue), no (orange)

GRAPH5 : REASON FOR NOT BUYING SOUVENIRS



Legend: Already bought (blue), Expensive (orange), No need (grey), Other (yellow), Not attracting (white)

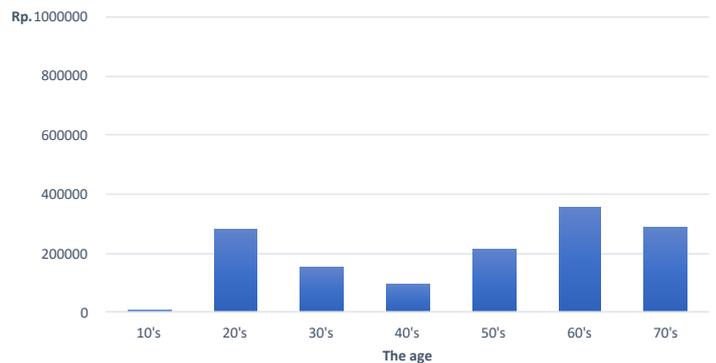
Table1 : Correlation between eating in the airport and a airline com pany

Airline	Coefficient	t value	P value
AirAsia	-0.14507	-4.03	0.000
Garuda Indonesia	0.11403	3.14	0.002
Korean Air	-0.42959	-0.78	0.438
Singapore Airlines	0.03203	1.15	0.249
Malaysia Airlines	0.01509	1.66	0.097

Table2 : Correlation between buying souvenirs in the airport and a airline com pany

Airline Com pany	Coefficient	t value	P value
AirAsia	-0.10586	-2.86	0.004
Garuda Indonesia	-0.00871	-0.23	0.816
Korean Air	0.03961	0.70	0.478
Singapore Airlines	0.07512	2.60	0.010
Malaysia Airlines	0.01709	1.76	0,08

Graph7 : Japanese Expenditure in the airport by the age



## 5. Proposal



Many people have leftover currencies after the journey, and now many airports install charity box for leftover currencies. On the other hand, through the beach clean activity, we could face to serious problems by ourselves. Trash and water problems are so serious which has to be immediately fixed. In our project, we focused on recycling and reducing garbage as well as education to children in Bali. EcoBali, the agency which is tackling on recycling problem, says they are in financial problems. By putting donation box for the agency which is trying to solve serious problem in Bali, it can help them a lot.

## <Collaborating with BDI student>

According to the graph below, the preferences of Japanese customers is snacks/candies, coffee and goods accessories.

### <The customers preference towards souvenirs>

	Hair oil	Coffee	Cosmetic	snack/ cnady	Accessories	Goods accessories	Clothes
<b>Purchased</b>	<b>569</b>	<b>611</b>	<b>435</b>	<b>928</b>	<b>239</b>	<b>590</b>	<b>332</b>
<b>Not</b>	<b>809</b>	<b>767</b>	<b>943</b>	<b>450</b>	<b>1139</b>	<b>786</b>	<b>1046</b>

The most popular souvenirs in Bali island is coffee and hair oil, however the variety of these commodities are limited, which is hard to create identified products. In addition, these commodities do not have traditional feature of Bali. Bali has great culture and religion but still many souvenirs cannot take these advantages, which can be purchased everywhere in the world.

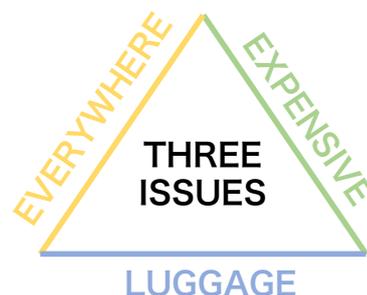
According to our survey result, many visitors is idling precious time in the waiting room and feeling bored, however, they don't do any shopping due to the price and typicality. Also, they cannot purchase many souvenirs because the souvenirs will be annoying luggage in the aircraft.

To solve these problems about souvenirs and make a bigger profit in the airport from the perspective of the shopping, we would like to propose new approach that victors can do funny shopping and spend money without any concerning about PRICE.

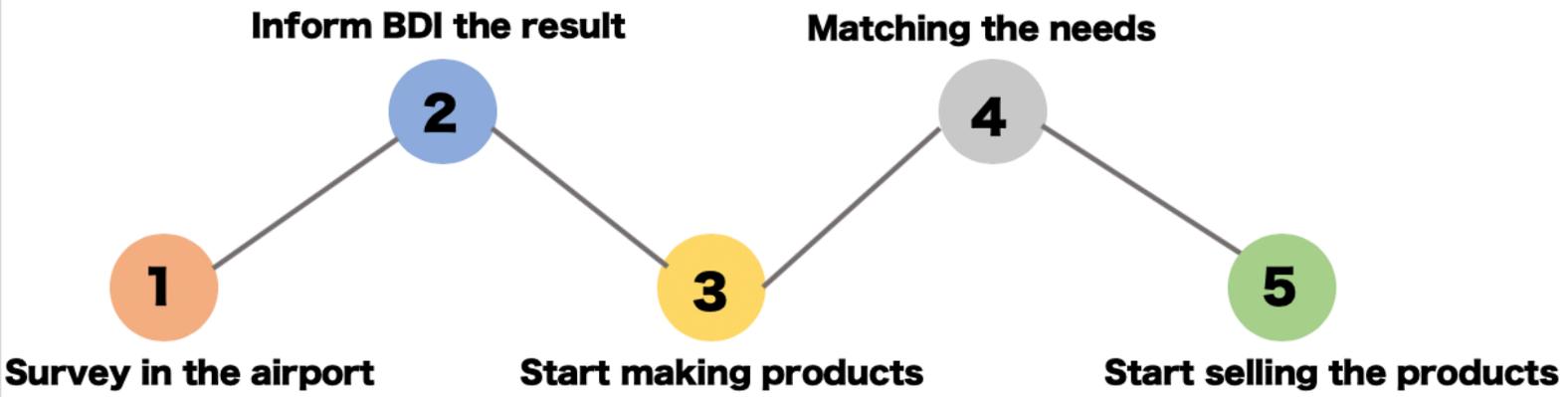
By collaborating with BDI Denpasar student (BDI: designers' community in Denpasar), interesting product can be invented which is not available outside the airport /extremely limited product.

The first approach of this project is to inform BDI student that what Japanese tourism want to purchase especially 20s age women which occupies 37% of Japanese tourism in total. The place the product is to be exhibited and sold is in duty free area in Ngurah Rai airport. Many of visitors have 1~2 hours after luggage inspection, so it is better not only doing shopping but also having them an interesting experience. Therefore, when they sell a product, customer can try creating original souvenirs based on the product which was made by BDI student.

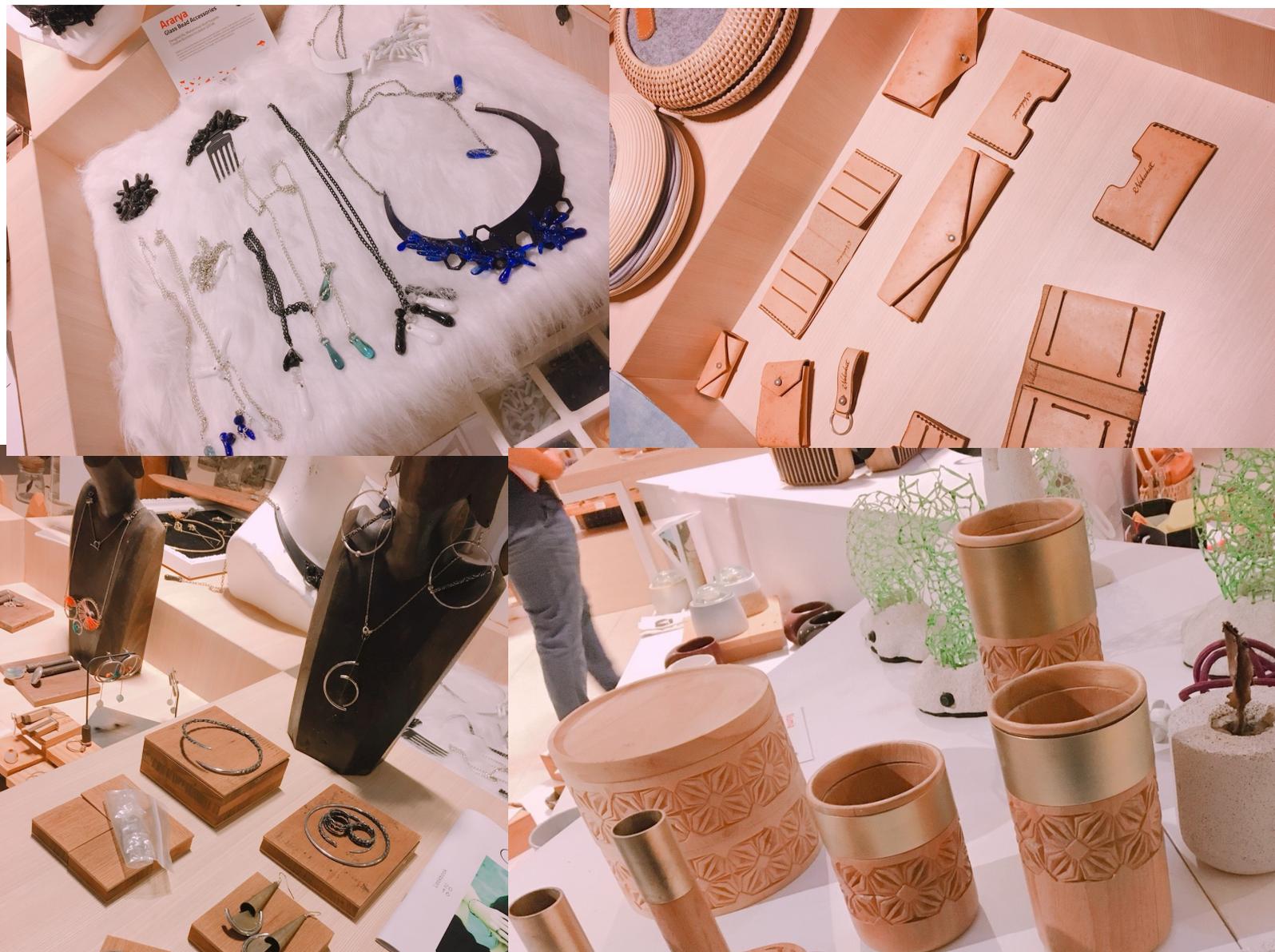
Not only BDI student making awesome product but they are creating animation film. So, it is more efficient to ask them to create promotion video that can faster the products.



# <The process until selling the product>



# <Product made by BDI student so far>



## <Eco-friendly activity>

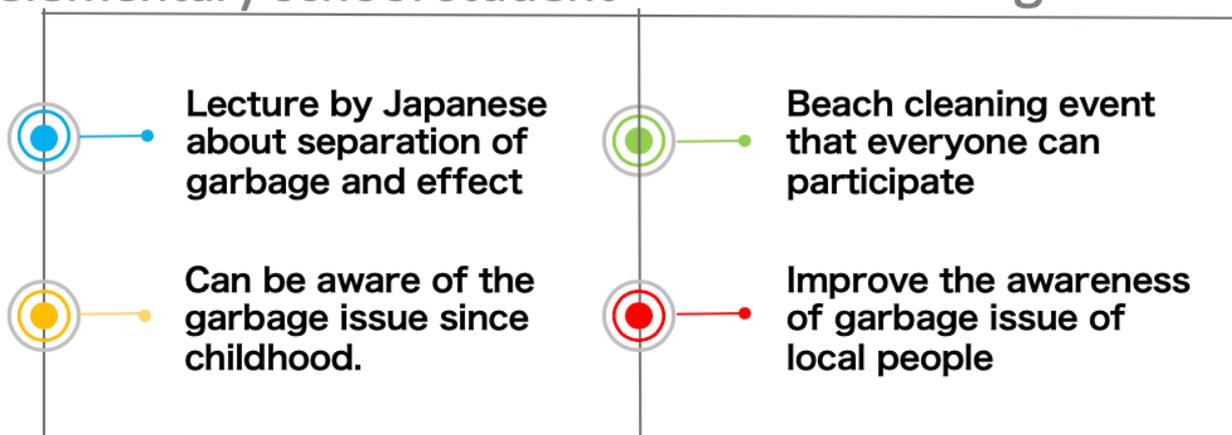
Bali island is facing a serious garbage issue these days as the tourism industry increase. According to our survey, many Japanese tourism have resort and exotic impression towards Bali island, however environmental degradation is sadly occurring. Not enough garbage box in the city, which people scatter it, in addition no separation even the garbage box says to separate trash, when garbage is disposed it, it is done at the same time. Not only creating duty city but also it is affecting environment in Bali seriously because of the dioxin problem that is emitted when the plastic garbage is burned.

One of the internship group from Kwansei-Gakuin University could be fortunately aware this serious problem, and we could tackle on this. By teaching how serious the garbage problem is to three elementary school students in Kuta area under the corporation of API-magazine and Udayana University student. The content of the lecture was to give them knowledge about garbage separation, environmental problem and so on. After the lecture, we conducted beach cleaning activity under the sponsorship of Balian Water and EcoBali

We would like to propose Ngurah Rai Airport to become a sponsorship of beach clean activity next year on October, which can improve the reputation towards environment.

Trough the survey, we found that there is an exhibition in the waiting room, so it will be more appreciated if our project is exhibited there.

### Lecture towards elementary school student    Beach cleaning event



Improve the awareness about  
**environmental** problems



