

## Measuring the Satisfaction of the users of Batna's Airport: Case Study

قياس رضا مستعملي مطار باتنة: دراسة حالة

Ismahane Belkacem Bouzida, Univ.bejaia [ismahane.belkacembouzida@univ-bejaia.dz](mailto:ismahane.belkacembouzida@univ-bejaia.dz)

Fares BOUBAKOUR, Pr E.H.E.S Alger, [fares\\_boubakour@yahoo.fr](mailto:fares_boubakour@yahoo.fr)

Received: 30/09/2019; Accepted for reviewing 27/10/2019; Accepted for publishing: 29/12/2019

### Abstract:

Air transportation has had growing attention globally and locally; Algeria's air transportation is subject to many criticizing whether it is about the national transport companies or the airports' performances. In this study, we aim to measure the customers' satisfaction regarding the services offered by Batna's Airport. A questionnaire was distributed and filled by the airport's users during March 2015; then the collected data was treated and analyzed by SPSS 20' and Microsoft Excel 2007. Results show a medium customers' satisfaction (61.7%).

**.keyword:** Air Transportation; Service quality; Customer Satisfaction; Batna's Airport.

**JEL classification code :** M300, M310, R410

### ملخص:

حظي النقل الجوي باهتمام متزايد على الصعيدين العالمي والمحلي لكن يخضع في الجزائر للكثير من الانتقادات سواء كان يتعلق بشركات النقل الوطنية أو أداء البنية التحتية أي المطارات. تهدف هذه الدراسة إلى قياس رضا العملاء فيما يتعلق بالخدمات التي يقدمها مطار باتنة. تم توزيع واملء استبيان من قبل مستخدمي المطار خلال شهر مارس 2015، ثم تمت معالجة البيانات التي تم جمعها وتحليلها بواسطة SPSS 20 و Microsoft Excel 2007 . أظهرت النتائج رضا متوسط لمستخدمي المطار بنسبة 61.7%.

**الكلمات المفتاحية :** النقل الجوي؛ جودة الخدمات؛ رضا الزبون؛ مطار باتنة.

**تصنيف JEL :** M300, M310, R410

Corresponding author: I.B. BOUZIDA, e-mail: [ismahane.belkacembouzida@univ-bejaia.dz](mailto:ismahane.belkacembouzida@univ-bejaia.dz)

## 1. Introduction :

The satisfaction of the growing demand of the population towards the air transport is not easy; the Algerian State does not cease to promote this sector of transport either by the investment or by the adoption of new laws who cannot always achieve modernization. Air transport thus remains far from the prospects of Algerians who do not see the image of this mode of transport especially in relation to the air transport services of developed countries where the quality standards are strictly respected.

The airport plays a leading role in the growth of air transport; it is the playground of the airlines. With this in mind, the Algerian government built Batna- airport in 1998 to further expand its airport network, which now reaches 36 airports for regular commercial transport. But the airport of Batna is still under exploited even after 21 years of its official inauguration. The airport is for the most part deserted. This situation contributes little to the improvement and development of air transport in Algeria. In order to reform the image of air transport, attention must first be paid to the quality of services that more or less determines the level of satisfaction of users of transport services. Knowing the expectations of customers is a priority for businesses to properly improve service delivery. Given the evolving nature of these expectations, their monitoring should be done periodically.

### **The main question:**

According to the above, the main problem of this research is as follows:

**"What is the satisfaction level of the users of the Batna Airport?"**

### **The sub-questions:**

From the main question, we could ask the following sub-questions:

1. What is the importance of air transportation for Batna Airport users?
2. How satisfied are the users of the Batna Airport with the current air transportation offer?
3. How satisfied are the users of the Batna Airport with each of the service quality indicators?
4. What is the order of importance of each of the quality indicators for users and does it influence the overall level of satisfaction?

**Hypotheses of the study:**

The hypotheses to be tested by this study are:

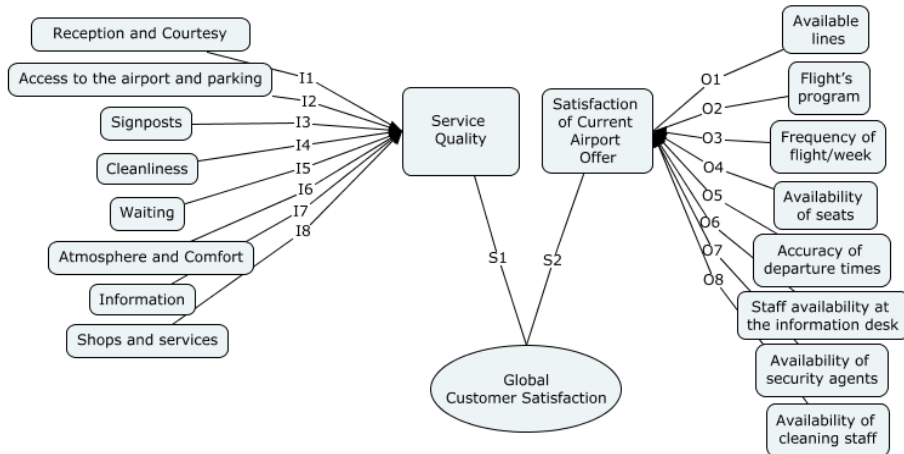
1. Users of Batna Airport prefer to travel by air;
2. The users of Batna Airport are dissatisfied with the current air offer;
3. The users of Batna Airport are dissatisfied with each of the indicators of the quality of airport services;
4. The importance of service quality indicators influences the overall level of satisfaction.

**Research Objectives:**

This study is aims to make a diagnosis of the situation of air transport in Algeria, specifically studying the airport of Batna by measuring the degree of satisfaction of its users in order to determine the users' expectations and the causes of their dissatisfaction as well as identifying the air transportation travel habits of the airport users and their preferences regarding different modes of transport. Finally, we aim to recognize the importance of every indicator of the quality of air transportation.

**Previous studies:**

No previous studies have been found to analyze user's satisfaction of Batna Airport except the one that has been performed by the Airport Services Management Company-Constantine but the result of the study were not communicated. Other studies include different evaluation of the services of the national air transportation company: AIR Algérie, like "The Impact of the Perceived Service Quality on Customer Satisfaction: Case Study Airways Airport Batna in Algeria" (Yahiaoui I. & Bouhdid L., 2015). The study aims at recognizing the standards used by customers to identify the quality of the services provided by the different transportation companies in Algeria.

**Research Model:****Fig. 1:** Research Model for Airport Users' Satisfaction Measuring**2. Service Quality :****2.1. Services:**

Services have been defined as economic activities offered from one party to another in order to create benefits and provide an added value for customers when achieving the desired results. (Lovelock & Patterson, 2015). Organizations must consider services' characteristics when delivering them in order to be more efficient. Starting from the non-possibility to stock most types of services and their perishability, which is also related to the absence of ownership transfer. Services imply the dominance of intangibility on the value creation process. The implication of customers in the service production and the possible implication of other people are other features of services; besides their heterogeneity signifying the constant changes in the operational inputs and outputs, and the difficulty to understand and evaluate many services by customers. (Lovelock & Patterson, 2015). It is therefore crucial to identify the different features of a service to provide an appropriate quality in a profitable way for all parties.

**2.2. Service quality:**

Services quality is defined as the customer evaluation of the service that is related to their prior expectations and past experiences. In other

words, it represents the difference between the perceived quality by customers and their previous ideas. The subjective nature of such an element makes it hard to measure. (Grujičić, Ivanović, Jović, & Đorić, 2014). Every customer will judge the quality differently than others because of the different point of views.

Many models have been established to measure quality including the SERVQUAL model giving quality five dimensions (reliability, responsiveness, empathy, assurances and tangibility) (Parasuraman, Zeithaml, & Berry, 1988). It is also important to identify the importance of every item to customers, therefore, enhancing certain elements might influence quality greatly than others. To be more efficient, organization should invest in the elements that would contribute in upgrading the satisfaction. (Grujičić et al., 2014)

### **2.3. Air Transport services quality:**

From the perspective of customers, airport service quality is evaluated by the eight following dimensions:

Reception and courtesy, Access to the airport and parking, Signposts, Cleanliness, Waiting, Atmosphere and comfort, Information, Shops and services. (Gönenç & Nicoletti, 2001)

## **3. Customer satisfaction:**

### **3.1. Definition:**

The strategy of the organization should be built around customers' needs that have to be satisfied in a profitable way for the organization and the customers. In order to do this, these needs have to be known through research and market intelligence for the purpose to ensure also effectiveness and efficiency. (Shukla, 2008) In other words, offering customers added value is the objective of modern marketing which can be done through customer satisfaction and quality. (Whalley, 2013)

Satisfaction may be defined as "an overall evaluation of performance based on all prior experiences with a firm" (Skogland & Siguaw, 2004). This evaluation is about comparing the perceived value obtained from the service with the customer's expectations. Therefore, perceived value has been defined as "the consumer's overall assessment of the utility of a service based on the perceptions of what is received and what is given" (Zeithaml, Bitner, Gremler, & Pandit, 2006). What creates these customer expectations are mainly the following points: Personnel needs, past experiences, direct information taken from the

---

environment of the customer, explicit information from published reports or brochures, and implicit information like the overall structure of a building. (Laurent, 2004)

### 3.2. Measuring customer satisfaction:

Many tools are used to measure the satisfaction as explained below:

1- **The analysis of administrative information:** such as telephone calls (the rate of calls, waiting times, ..) and statistics taken from the website (The number of visitors, pages visited, ...) .

2- **Periodic surveys and feedback:** Surveys make it possible to identify criteria and define a level of satisfaction for each. If the company's performance is below this level, an improvement plan must be put in place. Surveys and questionnaire are based on service quality through assessing its different dimensions since it is considered as a strong predictor of the satisfaction. (Gorondutse & Hilman, 2014)

3- **Claims processing:** a high number of complaint, an increase in claims, and the concentration of complaints about a product or places of service are signs of a bad quality that calls for a correction. This is not a tool to be counted on solely, since the follow-up of the complaints does not make it possible to get an idea of the satisfaction of all the customers;

4- **Customer defection rate:** The measure of client attrition is also a useful indicator of dissatisfaction: a high attrition rate or an increase in attrition are signs of a customer satisfaction problem. This indicator is particularly followed in the context of loyalty policies. However, the attrition rate is a symptom and it does not indicate the reason for the difficulties. It is therefore necessary to survey clients to measure and evaluate their satisfaction.

5- **A customer satisfaction barometer:** is a permanent or regular measure of customer satisfaction mainly used in the field of services. It can measure satisfaction through the perceived quality and / or quality served. A reflection on the components of customer satisfaction and the elements to be measured must be conducted before the creation of the satisfaction barometer. The method of collecting information must be stable over time.

### **3.3. Difficulties of Measuring Customer Satisfaction:**

The origin of satisfaction is the combination, sometimes complex, of several attributes between them. The number and weight of these attributes can vary according to several factors such as the offer, the individual, and the buying situation, which multiplies the possible combinations. Searching for a digital representation of a feeling is never precise, since we are measuring a subjective phenomenon. The complexity of a feeling of satisfaction makes the measurement complex as it depends on the questions asked, the moment when we gathered the opinions of users, the context in which the questionnaire is administered, and the user himself, the difficulties could be summed up as (Lopez & Remy, 2007):

- Satisfaction varies with time;
- Results depend on how questions are formulated and asked;
- The preparation of the measurement tool is a long, complex and an expensive process;
- Closed questions restrict the freedom of respondents to express themselves, so unforeseen problems are not detectable;
- The interpretation of the results is not immediate.

### **4. Study Methodology :**

The questionnaire used has for sections, the first is about Air transport habits, the second part is an appreciation of Batna's Airport current offer. The following section contain the appreciation of Batna's Airport services going through its different quality dimensions as well as the order of the importance of the quality indicators to customers. The Final section covers the personal details of the respondents.

To test the reliability of the questionnaire (05 Point-Likert scale) we have distributed 30 copies. The coefficient of Alpha Cronbach is .927 (higher than .7) which proves of its internal consistency.

The questionnaire was distributed in the terminal of the airport during of March 2015 to a simple random sample. It was available in Arabic and French and was generally auto-administered except when the sample members asked for clarifications. A total of 155 questionnaires were valid for the study. The collected data was treated by SPSS 20 (Statistical Package for Social Sciences) using frequency tables, the mean and the standard deviation as well as the coefficient of correlation of Spearman.

---

## 5. Study Results :

### 5.1. Sample Characteristics:

The sample was divided almost evenly between men and women with the percentage of men being slightly higher than that of women. The majority of them (63.2%) are married, the rest are whether single (35.5%) or other (widow(er) or divorced).

Half of the sample members are aged between 36 and 65 years, which might be linked to work motives even that many travel during this time of the year for family reasons (spring holidays). It is followed by those aged between 18 and 36 years (37.4%) and those aged beyond 65 years (10.3%), the rest is less than 18 years old. As for the educational level, most of them have a college degree or higher (69%) followed by those who have a high school level or less (21.3%). People with a different study path represent 9% of the sample and only one person has no educational level.

The majority of the sample members have a stable income whether they are employees (45.2%), self-employed (20%), or retired (12.3%). Students represent 12.9% and only 3 persons are looking for a job (1.9%). Those that make the remaining 7.7% are incapable of working or housewives. For the salaries and incomes, 47.1% make more than 45000 DA per month, and 23.9% make between 30000DA and 45000DA, which we can correlate to the prices of air transportation.



People with income or salary less than 18000DA and those between 18000DA and 30000DA make the following percentages in order 18.1% and 11%.

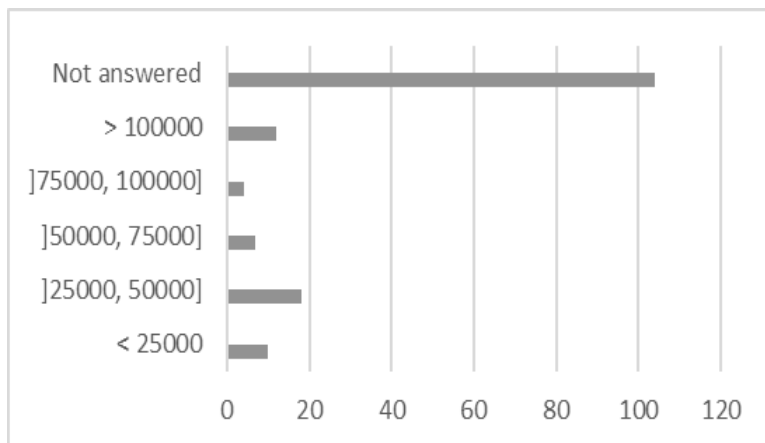
**Table 1:** Sample characteristics  
**Source:** Made by the author, based on SPSS Analysis

| <b>Variable</b>     | <b>Category</b>                   | <b>Frequency</b> | <b>Percentage (%)</b> |
|---------------------|-----------------------------------|------------------|-----------------------|
| Sex                 | Masculine                         | 87               | 56.1                  |
|                     | Feminine                          | 68               | 43.9                  |
| Age                 | Less than 18 years                | 3                | 1.9                   |
|                     | From 18 to 35 years               | 58               | 37.4                  |
|                     | From 36 to 65 years               | 78               | 50.3                  |
|                     | Beyond 65 years                   | 16               | 10.3                  |
| Family Status       | Single                            | 55               | 35.5                  |
|                     | Married                           | 98               | 63.2                  |
|                     | Other                             | 2                | 1.3                   |
| Educational level   | No education                      | 1                | 0.6                   |
|                     | High school or less               | 33               | 21.3                  |
|                     | College graduate or post graduate | 107              | 69                    |
|                     | Other                             | 14               | 9                     |
| Professional Status | Student                           | 20               | 12.9                  |
|                     | Looking for a job                 | 3                | 1.9                   |
|                     | Employee/ worker                  | 70               | 45.2                  |
|                     | Self-employed                     | 31               | 20                    |
|                     | Retired                           | 19               | 12.3                  |
| Salary              | Other                             | 12               | 7.7                   |
|                     | Less than 15000DA                 | 28               | 18.1                  |
|                     | From 15000 DA to 30000DA          | 17               | 11                    |
|                     | From 30000DA to 45000DA           | 37               | 23.9                  |
| More than 45000DA   | 73                                | 47.1             |                       |
| <b>Total</b>        |                                   | <b>155</b>       | <b>100</b>            |

## 5.2. Air transport habits:

The vast majority are not travelling from Batna's Airport for the first time (77%). The sample members have not answered in general the question regarding the annual budget reserved for air transportation for many reasons, which we can state as not being able to calculate the proper amount, the changing habits of travelling from one year to another, or for discretion.

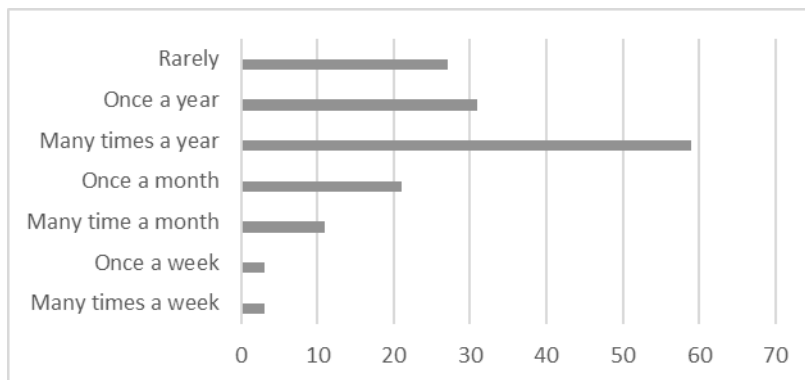
**Fig. 2:** The budget reserved for air transport in a year



**Source:** Made by the author, based on SPSS Analysis

The majority of our sample travel many times a year (38.1%). People travelling once a year and rarely represent 20% and 17.4%. as for those travelling many times a week, once a week or even many times a week, which could all be considered as high frequency represent in the order: 1.9%, 1.9% and 7.1%. This could be related to the prices of the air transport or for other factors.

**Fig. 3:** Annual frequency of travelling by airplane



**Source:** Made by the author, based on SPSS Analysis

In case of the non-availability of a flight from Batna’s airport, nearly half the sample use Constantine’s airport (52.3%), 20% use Sétif’s Airport, 27.7% use Algiers’ Airport, and 5.8% use other airports. Only 19.4% use solely Batna’s Airport in all their air transportations.

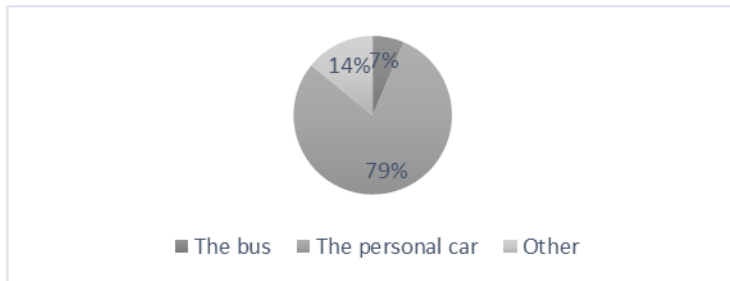
**Table 4:** Airports used when Batna’s Airport does not serve the desired destination

|       | Constantine’s Airport |             | Setif’s Airport |             | Algiers’ Airport |             | Always Batna’s Airpor |            | Other     |             |
|-------|-----------------------|-------------|-----------------|-------------|------------------|-------------|-----------------------|------------|-----------|-------------|
|       | Frequency             | (%)         | Frequency       | (%)         | frequency        | (%)         | Frequency             | (%)        | frequency | (%)         |
| Yes   | 81                    | <b>52.3</b> | 31              | <b>20.0</b> | 43               | <b>27.7</b> | 30                    | 19.4       | 9         | <b>5.8</b>  |
| No    | 74                    | <b>47.7</b> | 124             | <b>80.0</b> | 112              | <b>72.3</b> | 125                   | 80.6       | 146       | <b>94.2</b> |
| Total | 155                   | <b>100</b>  | 155             | <b>100</b>  | 155              | <b>100</b>  | 155                   | <b>100</b> | 155       | <b>100</b>  |

**Source:** Made by the author, based on SPSS Analysis

Considering the fact that the airport is far from Batna by 45km, other means of transportation are needed to reach this airport or other airports. 79% use their personal cars, 14% use the bus, and the rest use taxis or other means.

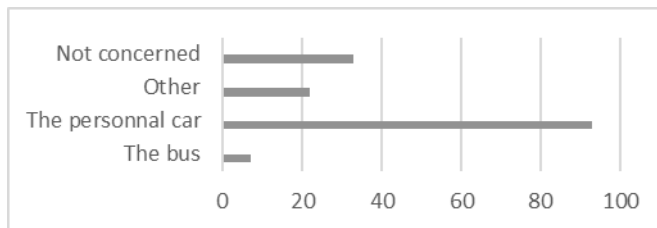
**Fig. 4:** Means of transportation used to reach the desired airport



**Source:** Made by the author, based on SPSS Analysis

Most people would definitely use other means of transportation (79%) other than air transportation preferring in general travelling by their personal cars (60%) or other means (14.2%), and finally the bus (4.5%).

**Fig. 5:** The favorite mean of transport



**Source:** Made by the author, based on SPSS Analysis

**5.3. Appreciation of Batna’s Airport current offer:**

The appreciation was measured by a 05 point Likert Scale, from very unsatisfied to very satisfied.

|                           | 1        | 2.5     | 3.5      | 5 |
|---------------------------|----------|---------|----------|---|
| <b>Evaluation</b>         | Negative | Neutral | Positive |   |
| <b>Satisfaction level</b> | Low      | Medium  | High     |   |

The mean of most of the components of the current offer are above the average making the mean of the satisfaction medium in general (3.04) with a percentage of 60.8%. One item has a high satisfaction level which is the availability of security agents. The accuracy of the departure times has a low satisfaction level with a mean of 2.46 The

standard deviation is the lowest for the availability of security agents showing a general mutual agreement upon this point.

**Table 05:** Appreciation of the current air offer of Batna’s Airport

|  | Frequencies      |             |         |           |                | Mean                                     | Std. Dev.               | Satisfaction  |
|--|------------------|-------------|---------|-----------|----------------|--|-------------------------|---------------|
|  | Very Unsatisfied | Unsatisfied | Neutral | Satisfied | Very Satisfied |  |                         |               |
| The available lines                        | 23               | 42          | 39      | 48        | 03             | 2.78                                     | 1.10<br>1               | <b>Medium</b> |
| The flight’s program                       | 22               | 52          | 36      | 40        | 05             | 2.70                                     | 1.10<br>0               | <b>Medium</b> |
| Frequency of flight during the week        | 26               | 49          | 41      | 34        | 05             | 2.63                                     | 1.09<br>9               | <b>Medium</b> |
| Availability of seats                      | 12               | 21          | 38      | 71        | 13             | 3.34                                     | 1.06<br>5               | <b>Medium</b> |
| Accuracy of departure times                | 44               | 42          | 29      | 34        | 06             | 2.46                                     | 1.22<br>3               | <b>Low</b>    |
| Staff availability at the information desk | 11               | 20          | 34      | 73        | 17             | 3.42                                     | 1.07<br>4               | <b>Medium</b> |
| Availability of security agents            | 05               | 08          | 26      | 84        | 32             | 3.84                                     | 0.92<br>2               | <b>High</b>   |
| Availability of cleaning staff             | 22               | 14          | 52      | 52        | 15             | 3.15                                     | 1.16<br>9               | <b>Medium</b> |
|  |                  |             |         |           |                | <b>3.04</b><br><b>(60.8</b><br><b>%)</b> | <b>1.09</b><br><b>4</b> | <b>Medium</b> |

**Source:** Made by the author, based on SPSS Analysis

**5.4. Appreciation of Batna’s Airport services:**

Each service quality indicator has many components; here they are presented in the same order of the questionnaire:

**1. Reception and Courtesy:**

This dimension has a medium satisfaction (3.37). Three components have a high satisfaction, which are the reception at the information desk, at the registration, and the courtesy of police and customs officers. The remaining ones have a medium satisfaction. Generally, the standard deviation is low ranging from 1.268 to 0.947.

**Table 6:** Appreciation of Reception and Courtesy

|  | Frequencies      |             |         |           |                | Mean        | Std. Dev.    | Satisfaction  |
|--|------------------|-------------|---------|-----------|----------------|-------------|--------------|---------------|
|  | Very Unsatisfied | Unsatisfied | Neutral | Satisfied | Very Satisfied |             |              |               |
| Reception and courtesy at the information desk   | 07               | 14          | 34      | 85        | 15             | 3.56        | 0.947        | <b>High</b>   |
| Reception and courtesy at the registration       | 08               | 11          | 26      | 96        | 18             | 3.68        | 0.953        | <b>High</b>   |
| Reception and courtesy at the shops and services | 34               | 26          | 38      | 66        | 11             | 2.83        | 1.268        | <b>Medium</b> |
| Courtesy of police and customs officers          | 14               | 05          | 23      | 83        | 23             | 3.59        | 1.104        | <b>High</b>   |
| Courtesy at the baggage check                    | 17               | 55          | 27      | 66        | 22             | 3.46        | 1.180        | <b>Medium</b> |
| Telephone reception                              | 14               | 77          | 69      | 47        | 08             | 3.12        | 0.987        | <b>Medium</b> |
|  |                  |             |         |           |                | <b>3.37</b> | <b>1.073</b> | <b>Medium</b> |

## 2. Access to the airport and the parking

This dimension has a medium satisfaction too (3.16) with a standard deviation generally close to 01. The lowest mean represents the availability of public transportation from/ to the airport as well as the availability of taxis (2.66, 2.67). The distance between the airport and the city makes it difficult for people who do not have a personal car to travel by airplane too.

**Table 7:** Appreciation of the access to the airport and the parking

|   | Frequencies      |             |         |           |                | Mean        | Std. Dev.    | Satisfaction  |
|---|------------------|-------------|---------|-----------|----------------|-------------|--------------|---------------|
|   | Very Unsatisfied | Unsatisfied | Neutral | Satisfied | Very Satisfied |             |              |               |
| Road signs to the airport                                 | 16               | 16          | 25      | 80        | 18             | 3.44        | 1.146        | <b>Medium</b> |
| Availability of taxis from/to the airport                 | 25               | 45          | 46      | 34        | 05             | 2.67        | 1.088        | <b>Medium</b> |
| Availability of public transportation from/to the airport | 24               | 42          | 57      | 26        | 06             | 2.66        | 1.052        | <b>Medium</b> |
| Pedestrian paths at the airport                           | 12               | 24          | 46      | 60        | 13             | 3.25        | 1.065        | <b>Medium</b> |
| Easiness to park at the parking                           | 07               | 11          | 21      | 87        | 29             | 3.77        | 0.984        | <b>High</b>   |
|   |                  |             |         |           |                | <b>3.16</b> | <b>1.067</b> | <b>Medium</b> |

**Source:** Made by the author, based on SPSS Analysis

### 3. Signposts

The general satisfaction towards the signposts leading to the airport or inside the airport itself is medium for a mean of 3.29. The lowest level of satisfaction is for the signposts for disabled people (2.85)

**Table 8:** Appreciation of signposts

|                                      | Frequencies      |             |         |           |                | Mean        | Std. Dev.    | Satisfaction  |
|--------------------------------------|------------------|-------------|---------|-----------|----------------|-------------|--------------|---------------|
|                                      | Very Unsatisfied | Unsatisfied | Neutral | Satisfied | Very Satisfied |             |              |               |
| Signposts leading to the airport     | 13               | 1           | 2       | 8         | 14             | 3.42        | 1.086        | <b>Medium</b> |
| Signposts to the registration office | 09               | 2           | 2       | 8         | 16             | 3.52        | 1.034        | <b>High</b>   |
| Signposts to the boarding gate       | 07               | 2           | 2       | 8         | 16             | 3.52        | 1.002        | <b>High</b>   |
| Signposts to shops and services      | 19               | 2           | 3       | 6         | 13             | 3.18        | 1.176        | <b>Medium</b> |
| Signposts to the parking             | 08               | 1           | 3       | 7         | 12             | 3.45        | 0.968        | <b>Medium</b> |
| Signposts for disabled persons       | 31               | 3           | 3       | 5         | 09             | 2.85        | 1.247        | <b>Medium</b> |
| Location of luggage carts            | 21               | 3           | 3       | 6         | 12             | 3.08        | 1.198        | <b>Medium</b> |
|                                      |                  | 0           | 2       | 0         |                | <b>3.29</b> | <b>1.102</b> | <b>Medium</b> |

Source: Made by the author, based on SPSS Analysis

### 4. Cleanliness:

The cleanliness of the airport has a medium satisfaction of 3.29 and a standard deviation of 1.102. It has even a high level of satisfaction for the parking cleanliness, going slightly above the threshold (3.59) which has the lowest standard deviation (0.979).

**Table 9:** Appreciation of the cleanliness

|   | Frequencies |      |      |       |            | Mean        | Std. Dev.    | Satisfaction  |
|---|-------------|------|------|-------|------------|-------------|--------------|---------------|
|   | Very Unsa   | Unsa | Neut | Satis | Very Satis |             |              |               |
| General cleanliness of the terminal         | 18          | 32   | 31   | 60    | 14         | 3.13        | 1.188        | <b>Medium</b> |
| Cleanliness of the outside surroundings     | 14          | 22   | 25   | 78    | 16         | 3.39        | 1.130        | <b>Medium</b> |
| Cleanliness of the parking                  | 08          | 14   | 29   | 87    | 17         | 3.59        | 0.979        | <b>High</b>   |
| Cleanliness of the bathrooms                | 34          | 36   | 39   | 40    | 06         | 2.66        | 1.191        | <b>Medium</b> |
| Cleanliness of the shops and other services | 18          | 30   | 53   | 45    | 09         | 2.98        | 1.090        | <b>Medium</b> |
|   |             |      |      |       |            | <b>3.29</b> | <b>1.102</b> | <b>Medium</b> |

Source: Made by the author, based on SPSS Analysis

### 5. Waiting:

Waiting has a medium satisfaction for all its statements, the general mean is 3.25 and the standard deviation is 1.117. The highest mean is 3.36 for waiting at the hand baggage check that almost equals the mean of the waiting of the passport check and at the registering desk as well.

**Table 10:** Appreciation of the waiting

|  | Frequencies      |             |         |           |                | Mean        | Std. Dev.    | Satisfaction  |
|--|------------------|-------------|---------|-----------|----------------|-------------|--------------|---------------|
|  | Very Unsatisfied | Unsatisfied | Neutral | Satisfied | Very Satisfied |             |              |               |
| Waiting at the passport check          | 11               | 23          | 32      | 78        | 11             | 3.35        | 1.049        | <b>Medium</b> |
| Waiting at the registering desk        | 09               | 29          | 31      | 75        | 11             | 3.32        | 1.044        | <b>Medium</b> |
| Waiting at the hand luggage control    | 14               | 18          | 35      | 74        | 14             | 3.36        | 1.092        | <b>Medium</b> |
| Waiting in the departure lounge        | 19               | 25          | 32      | 69        | 10             | 3.17        | 1.156        | <b>Medium</b> |
| Waiting for baggage check at departure | 18               | 22          | 35      | 71        | 09             | 3.20        | 1.125        | <b>Medium</b> |
| Waiting for luggage check on arrival   | 23               | 27          | 31      | 59        | 15             | 3.10        | 1.239        | <b>Medium</b> |
|  |                  |             |         |           |                | <b>3.25</b> | <b>1.117</b> | <b>Medium</b> |

**Source:** Made by the author, based on SPSS Analysis

### 6. Atmosphere and Comfort:

The satisfaction towards the general atmosphere and the comfort inside the airport is medium with an average of 3.33 and a standard deviation of 1.038. Security at the parking has a high satisfaction with 3.74 and a standard deviation of 0.889. The other items are close to one another except the transport of passengers from and to the airplane, which is done by bus with a mean of 3.01. The travelers prefer a telescopic gangway instead of leaving one mean of transportation to take another.

**Table 11:** Appreciation of the Atmosphere and the Comfort

|  | Frequencies      |             |         |           |                | Mean | Std. Dev. | Satisfaction  |
|--|------------------|-------------|---------|-----------|----------------|------|-----------|---------------|
|  | Very Unsatisfied | Unsatisfied | Neutral | Satisfied | Very Satisfied |      |           |               |
| General atmosphere at the terminal       | 07               | 32          | 28      | 77        | 11             | 3.34 | 1.028     | <b>Medium</b> |
| Comfort at the terminal                  | 10               | 31          | 29      | 76        | 09             | 3.28 | 1.054     | <b>Medium</b> |
| Security at the parking                  | 04               | 11          | 29      | 88        | 23             | 3.74 | 0.889     | <b>High</b>   |
| Seat's availability at the boarding area | 08               | 21          | 28      | 85        | 13             | 3.48 | 1.002     | <b>Medium</b> |



|   |    |    |    |    |    |             |              |               |
|---|----|----|----|----|----|-------------|--------------|---------------|
| Comfort of seat at the boarding area                | 12 | 36 | 38 | 60 | 09 | 3.12        | 1.075        | <b>Medium</b> |
| Transport of passengers by bus from/to the airplane | 22 | 33 | 30 | 62 | 08 | 3.01        | 1.182        | <b>Medium</b> |
|   |    |    |    |    |    | <b>3.33</b> | <b>1.038</b> | <b>Medium</b> |

**Source:** Made by the author, based on SPSS Analysis

### 7. Information:

In general, the appreciation of the availability of information is medium with a mean of 3.14 and a standard deviation of 1.102. The satisfaction towards the items is in general close ranging from 3.18 to 3.27 except information requested by phone; the mean is 3.81, close to the threshold of a low satisfaction and the airport users have complained from not receiving proper answers through the phone or no answers at all.

**Table 12:** Appreciation of information

|   | Frequencies      |             |         |           |                | Mean        | Std. Dev.    | Satisfaction  |
|---|------------------|-------------|---------|-----------|----------------|-------------|--------------|---------------|
|   | Very Unsatisfied | Unsatisfied | Neutral | Satisfied | Very Satisfied |             |              |               |
| Information on display screens                    | 13               | 36          | 25      | 66        | 15             | 3.22        | 1.158        | <b>Medium</b> |
| Audio announcements in the boarding area          | 11               | 35          | 32      | 65        | 12             | 3.21        | 1.097        | <b>Medium</b> |
| Information of parking fees and payment           | 14               | 27          | 45      | 55        | 14             | 3.18        | 1.108        | <b>Medium</b> |
| Information given by phone                        | 20               | 37          | 58      | 32        | 08             | 2.81        | 1.068        | <b>Medium</b> |
| Information given on demand by the reception desk | 12               | 22          | 49      | 56        | 16             | 3.27        | 1.077        | <b>Medium</b> |
|   |                  |             |         |           |                | <b>3.14</b> | <b>1.102</b> | <b>Medium</b> |

**Source:** Made by the author, based on SPSS Analysis

### 8. Shops and services

The only item in this section that has a high satisfaction is the lighting and the brightness at the terminal with a mean of 3.55. The other items have medium to low satisfaction ranging from 2.16 to 2.99. The high rental prices for the spaces inside the terminal discourages the opening of shops and businesses in general.

**Table 13:** Appreciation of shops and services

|                               | Frequencies         |             |         |           |                   | Mean        | Std.<br>Dev. | Satisfaction  |
|-------------------------------|---------------------|-------------|---------|-----------|-------------------|-------------|--------------|---------------|
|                               | Very<br>Unsatisfied | Unsatisfied | Neutral | Satisfied | Very<br>Satisfied |             |              |               |
| The shops                     | 57                  | 44          | 29      | 22        | 03                | 2.16        | 1.131        | <b>Low</b>    |
| The cafeteria                 | 38                  | 41          | 34      | 37        | 05                | 2.55        | 1.191        | <b>Medium</b> |
| Other available services      | 34                  | 34          | 56      | 23        | 08                | 2.59        | 1.138        | <b>Medium</b> |
| Car rental Services           | 53                  | 24          | 59      | 15        | 04                | 2.31        | 1.120        | <b>Low</b>    |
| Availability of luggage carts | 22                  | 28          | 46      | 47        | 12                | 2.99        | 1.171        | <b>Medium</b> |
| Lighting and brightness       | 07                  | 14          | 39      | 76        | 19                | 3.55        | 0.975        | <b>High</b>   |
|                               |                     |             |         |           |                   | <b>2.69</b> | <b>1.121</b> | <b>Medium</b> |

**Source:** Made by the author, based on SPSS Analysis

### **Correlations:**

Calculating the correlation between the satisfaction level and if the respondent is using the airport for the first time, we find in general negative correlation ranging from  $-0.162$  to  $-0.360$  which means the more they use the airport the more they are dissatisfied with its services quality. The correlation is related to the following elements:

Pedestrian paths at the airport, Information on display screens, Courtesy at the baggage check, Waiting at the hand luggage check, General cleanliness of the terminal, Information given by phone, Availability of seats, Cleanliness of the bathrooms, Waiting in the departure lounge, Easiness to park at the parking, Signposts to the boarding gate, Transport of passengers by bus from/to the airplane, Other available services, Waiting at the passport check, Availability of luggage carts, Frequency of flight during the week, Signposts to shops and services, Telephone reception, Accuracy of departure times, Reception and courtesy at the shops and services, The available lines, Cleanliness of the shops and other services, The cafeteria, The flight's program, Car rental Services, and The shops.

### **5.5. The importance of the quality indicators of air transportation:**

Putting the indicators of quality of air transportation in order according to customers is a critical factor to allow decision maker to know upon

which section they should concentrate the most to enhance the satisfaction level. Batna Airport users see the shops and services as the most important indicator followed by reception and courtesy and the general atmosphere and comfort inside the airport.

**Table 14: Importance of quality indicators of air transportation services**

|        | Reception and Courtesy | Access & Parking | Signposts | Cleanliness | Waiting   | Atmosphere and comfort | Information | Shops and Services |
|--------|------------------------|------------------|-----------|-------------|-----------|------------------------|-------------|--------------------|
| Order  | <b>02</b>              | <b>08</b>        | <b>07</b> | <b>06</b>   | <b>05</b> | <b>03</b>              | <b>04</b>   | <b>01</b>          |
| Coeff. | <b>07</b>              | <b>01</b>        | <b>02</b> | <b>03</b>   | <b>04</b> | <b>06</b>              | <b>05</b>   | <b>08</b>          |

**Source:** Made by the author, based on SPSS Analysis

Giving every indicator a weight according to its importance starting from 8 to the most important to 01 to the least important one, we recalculate the satisfaction. The mean before weighting is 3.05, which means a percentage of 61%, and after weighting the indicators, it is 3.13 equivalent to a percentage of 62.6% indicating a medium satisfaction.

**Table 15: Satisfaction towards the services of Batna’s Airport**

| <b>The indicator</b>              | <b>Mean</b>  | <b>Coeff.</b> | <b>Mean after weighting</b> | <b>Satisfac-tion</b> |
|-----------------------------------|--------------|---------------|-----------------------------|----------------------|
| Reception and Courtesy            | 03.37        | 07            | 23.59                       | <b>Medium</b>        |
| Access to the airport and parking | 03.16        | 01            | 03.16                       | <b>Medium</b>        |
| Signposts                         | 03.29        | 02            | 06.58                       | <b>Medium</b>        |
| Cleanliness                       | 03.15        | 03            | 09.45                       | <b>Medium</b>        |
| Waiting                           | 03.25        | 04            | 13.00                       | <b>Medium</b>        |
| Atmosphere and Comfort            | 03.33        | 06            | 19.98                       | <b>Medium</b>        |
| Information                       | 03.14        | 05            | 15.70                       | <b>Medium</b>        |
| Shops and services                | 02.69        | 08            | 21.52                       | <b>Low</b>           |
|                                   | <b>03.05</b> | <b>36</b>     | <b>03.13</b>                | <b>Medium</b>        |
|                                   | <b>(61%)</b> |               | <b>(62.6%)</b>              |                      |

**Source:** Made by the author, based on SPSS Analysis

The global satisfaction include the satisfaction towards the current offer of the airport and the satisfaction towards the indicators of services’ quality. The result is medium satisfaction for 61.7%

**Table 16:** Global satisfaction of the users of Batna's Airport

|  | Mean          | (%)          | Satisfac-<br>tion |
|--|---------------|--------------|-------------------|
| Satisfaction towards the current offer                   | 03.04         | 60.80        | <b>Medium</b>     |
| Satisfaction towards the indicators of services' quality | 03.13         | 62.60        | <b>Medium</b>     |
| <b>Global satisfaction</b>                               | <b>03.085</b> | <b>61.70</b> | <b>Medium</b>     |

## 6. Conclusion:

The study was done in 2015 but the circumstances have not changed if not for the worst. The fleet of all Algerian companies is composed of small planes, the number of which is very small. It was by the order of 66 aircrafts for regular transport and 22 for charter companies in 2015 and now we notice a little increase in the number going up to 71 aircrafts and 44 small airplanes for charter companies. Batna airport is under-operated with only, 11 flights per week compared to 14 in 2015 serving 04 destinations. Turkish Airlines have canceled their flight to Istanbul, same for Tassili Airlines that used to serve the capital with two flights a week. Aigle Azur had one destination during the summer to Paris. But this later has stopped all its flights now. The airport can accommodate the current number of passengers, but in case of three simultaneous flights or more, the terminal and the parking will be congested. The management of the airport by the Airport Services Management Company EGSA of Constantine seems efficient in the current conditions, may be due the low number of passengers per day compared to major airports. The results of the questionnaire show that overall satisfaction is 61.70%, an average result requiring efforts to minimize the causes of dissatisfaction. The satisfaction of airport users towards the current offer is 60.8%, the satisfaction is especially low for the accuracy of flight hours. Airport users' satisfaction with service quality indicators in general is 62.6%, but it is much lower for shops and services 53.8%, which is the most important indicator.

## Recommendations:

Based on the results, the following suggestions might be made:

Open more national destinations (west and south of the country) and international destinations (especially big cities in France), add more

flights to Algiers especially on Sundays, and schedule the departures in the morning;

The enlargement of the terminal and the improvement of the air-conditioning system enhancing the external landscape as well as the rehabilitation of the interior decoration of the airport in order to allow visitors to appreciate the external landscape during the landing of planes and the arrival of passengers. Install a surveillance camera system would reduce the number of police officers that gives sense of insecurity. Besides, people with reduced mobility should get more care. Establish a quality management unit that will have to measure satisfaction on a regular basis and raise the awareness of all staff at the airport of the importance of quality assurance, especially the courtesy with the passengers and create a website for the airport so that the users can find out about flights and services and send their complaints;

Build a motel at the airport for people arriving late at night and ensure the transportation between the airport and the city, especially around the time of flights. The Airport Services Management Company (EGSA) could benefit from this task as a source of revenue. Outsourcing the service might also be a good choice;

Lower the rental prices of the spaces at the terminal to encourage the creation of businesses and services and enhance the quality of the waiting time by offering leisure areas and Wi-Fi connection;

Install an elevator to facilitate access to the first floor and a telescopic gangway facilitating movement between aircraft and the terminal;

Opening the competition especially to low cost companies would improve the services of the air transport in Algeria. Even if the study was about the services of the airport, the users did not hesitate to declare their discontent towards Air Algeria, for the baggage handling, ticket prices, cold meals onboard and the discomfort of airplanes;

According to many employees, the administrative link of Batna Airport to The Airport Services Management Company of Constantine is an obstacle to its prosperity; hence the need to decentralize the management or the privatize it;

---

## 7. References :

1. Gönenç, R., & Nicoletti, G. (2001). Le transport aérien de passagers: réglementation, structure du marché et performance. *Revue économique de l'OCDE*(1), 203-254.
2. Gorondutse, A. H., & Hilman, H. (2014). Mediation effect of customer satisfaction on the relationships between service quality and customer loyalty in the Nigerian foods and beverages industry: Sobel test approach. *International Journal of Management Science and Engineering Management*, 9(1), 1-8.
3. Grujičić, D., Ivanović, I., Jović, J., & Đorić, V. (2014). Customer perception of service quality in public transport. *Transport*, 29(3), 285-295.
4. Laurent, H. (2004). L'accueil client: Saint-Denis-La-Plaine, Afnor.
5. Lopez, A., & Remy, P.-L. (2007). *Mesure de la satisfaction des usagers des établissements de santé: Inspection générale des affaires sociales*.
6. Lovelock, C., & Patterson, P. (2015). *Services marketing*: Pearson Australia.
7. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual: A multiple-item scale for measuring consumer perc. *Journal of retailing*, 64(1), 12.
8. Shukla, P. (2008). *Essentials of marketing research*: Bookboon.
9. Skogland, I., & Siguaw, J. A. (2004). Are your satisfied customers loyal? *Cornell Hotel and Restaurant Administration Quarterly*, 45(3), 221-234.
10. Whalley, A. (2013). *Strategic Marketing*: bookboom. com.
11. Zeithaml, V. A., Bitner, M. J., Gremler, D. D., & Pandit, A. (2006). *Services marketing: Integrating customer focus across the firm*.