

DECISION ANALYSIS

ASSIGNMENT 4 – ISEC 3050 ETHICS AND LAW IN DATA ANALYTICS



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JAMIE LU

W0441213

# INTRODUCTION

Decision making is the process of making choices using reasonable methods that would make sense to the situation at hand. You make choices by looking at all the available options, collecting information, identifying alternatives, weighing the evidence, and acting based on the decision made.

Decision making can be tricky but there are multiple tools and methods one can use to make this easier and reach a more reasonable and effective result.

One tool that can be used in decision making would be creating a decision-making matrix. A decision-making matrix lists all the options and sets a list of factors/criteria that the choice will be based upon. The list of options would be narrowed down by prioritizing options.

This assignment contains an exercise of going through the decision-making matrix to decide on which destination would best suit the couple.

# **MY MATRIX**

## ORIGINAL MATRIX

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CRITERIA | WEIGHT | JAMAICA | CUBA | HAWAII |
| MINIMAL COST | 2 | -1 | 1 | -2 |
| BEACHES | 3 | 2 | 1 | 2 |
| ENTERTAINMENT | 2 | 1 | 1 | 2 |
| FOOD | 2 | 2 | -1 | 2 |

## CALCULATIONS

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CRITERIA | WEIGHT | JAMAICA | CUBA | HAWAII | JAMAICA TOTAL  (WEIGHT\*JAMAICA) | CUBA TOTAL  (WEIGHT\*CUBA) | HAWAII TOTAL  (WEIGHT\*HAWAII) |
| MINIMAL COST | 2 | -1 | 1 | -2 | -2 | 2 | -4 |
| BEACHES | 3 | 2 | 1 | 2 | 6 | 3 | 6 |
| ENTERTAINMENT | 2 | 1 | 1 | 2 | 2 | 2 | 4 |
| FOOD | 2 | 2 | -1 | 2 | 4 | -2 | 4 |
| SUM  (MINIMAL COST TOTAL+BEACHES TOTAL+ENTERTAINMENT TOTAL+FOOD TOTAL) | | | | | 10 | 5 | 10 |

## FINAL MATRIX

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CRITERIA | WEIGHT | JAMAICA TOTAL  (WEIGHT\*JAMAICA) | CUBA TOTAL  (WEIGHT\*CUBA) | HAWAII TOTAL  (WEIGHT\*HAWAII) |
| MINIMAL COST | 2 | -2 | 2 | -4 |
| BEACHES | 3 | 6 | 3 | 6 |
| ENTERTAINMENT | 2 | 2 | 2 | 4 |
| FOOD | 2 | 4 | -2 | 4 |
| SUM  (MINIMAL COST TOTAL+BEACHES TOTAL+ENTERTAINMENT TOTAL+FOOD TOTAL) | | 10 | 5 | 10 |

## MY MATRIX ANALYSIS

To grab the total score for each criterion of the specific destination, the weight for each criterion was multiplied by the score of the same criterion. Once the total score for each criterion was computed, the sum for each destination option was calculated. This is done by adding up all the total scores for each criterion of the specific destination.

Based on the calculations for my matrix, there is a clear tie between Jamaica and Hawaii.

# **PARTNER’S MATRIX**

## ORIGINAL MATRIX

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CRITERIA | WEIGHT | JAMAICA | CUBA | HAWAII |
| MINIMAL COST | 1 | -1 | 1 | -2 |
| BEACHES | 1 | 2 | 1 | 2 |
| ENTERTAINMENT | 3 | 1 | 1 | 2 |
| FOOD | 2 | 2 | -1 | 2 |

## CALCULATIONS

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CRITERIA | WEIGHT | JAMAICA | CUBA | HAWAII | JAMAICA TOTAL  (WEIGHT\*JAMAICA) | CUBA TOTAL  (WEIGHT\*CUBA) | HAWAII TOTAL  (WEIGHT\*HAWAII) |
| MINIMAL COST | 1 | -1 | 1 | -2 | -1 | 1 | -2 |
| BEACHES | 1 | 2 | 1 | 2 | 2 | 1 | 2 |
| ENTERTAINMENT | 3 | 1 | 1 | 2 | 3 | 3 | 6 |
| FOOD | 2 | 2 | -1 | 2 | 4 | -2 | 4 |
| SUM  (MINIMAL COST TOTAL+BEACHES TOTAL+ENTERTAINMENT TOTAL+FOOD TOTAL) | | | | | 8 | 3 | 10 |

## FINAL MATRIX

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CRITERIA | WEIGHT | JAMAICA | CUBA | HAWAII | JAMAICA TOTAL  (WEIGHT\*JAMAICA) | CUBA TOTAL  (WEIGHT\*CUBA) | HAWAII TOTAL  (WEIGHT\*HAWAII) |
| MINIMAL COST | 1 | -1 | 1 | -2 | -1 | 1 | -2 |
| BEACHES | 1 | 2 | 1 | 2 | 2 | 1 | 2 |
| ENTERTAINMENT | 3 | 1 | 1 | 2 | 3 | 3 | 6 |
| FOOD | 2 | 2 | -1 | 2 | 4 | -2 | 4 |
| SUM  (MINIMAL COST TOTAL+BEACHES TOTAL+ENTERTAINMENT TOTAL+FOOD TOTAL) | | | | | 8 | 3 | 10 |

## MY MATRIX ANALYSIS

To grab the total score for each criterion of the specific destination, the weight for each criterion was multiplied by the score of the same criterion. Once the total score for each criterion was computed, the sum for each destination option was calculated. This is done by adding up all the total scores for each criterion of the specific destination.

Based on the calculations on my partner’s decision matrix, Hawaii is the top choice, followed by Jamaica, then Cuba.

# CONCLUSION:

Hawaii has scored the top for both my partner and me. Even though my decision matrix tied both Hawaii and Jamaica, Hawaii came out as the top choice for my partner’s decision matrix which made it come out on top. To illustrate:

|  |  |  |  |
| --- | --- | --- | --- |
| TOTAL SCORES | MY MATRIX | MY PARTNER’S MATRIX | TOTAL FOR BOTH MATRIX |
| JAMAICA | 10 | 8 | 18 |
| CUBA | 5 | 3 | 8 |
| HAWAII | 10 | 10 | 20 |

The table above shows that we can grab the total score for both matrix by adding my matrix’s total score for each destination with my partner’s total score for each destination. Hawaii, in total, has scored the highest with 20, followed by Jamaica with 18, and last is Cuba with 8.

In conclusion, based on the score and weight for each criterion, the destination that will satisfy me and my partner’s needs would be Hawaii.

# References

Lucidchart Content Team. (n.d.). *7 Steps of the Decision-Making Process*. Retrieved November 23, 2020, from Lucidchart: https://www.lucidchart.com/blog/decision-making-process-steps

Lucidchart Content Team. (n.d.). *How BAs Can Use a Decision Matrix to Make Tough Choices*. Retrieved November 23, 2020, from Lucidchart: https://www.lucidchart.com/blog/how-to-make-a-decision-matrix