MSIS 638

Case 1.2a

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a)

Consider buying a new laptop. We can use weighted average method to find the optimal laptop to buy.

b)

List six criteria for buying a laptop.

1. Price

2. Exterior & Familiar System (E.g., Window, Mac, Linux)

3. Durability of the battery

4. Internal Configuration and Efficacy

5. Weight

6. Additional Function (E.g., 3D IR Camera, Good sound and microphone)

c)

1. ASUS ZenBook 14 Ultra-Slim Laptop ---- Price: $1059

Configuration (specification) ---- Brand: ASUS

System: Win 10 Pro

Storage space: 1024 GB (1 TB) SSD

RAM: 16 GB

Screen size: 14 Inches

Weight: 2.69 pounds

CPU: AMD 4th Generation Ryzen 7 (Beat i7), 8-core.

Average Battery Life: 12 Hours

2. Microsoft Surface Laptop Go ---- Price: $900

Configuration (specification) ---- Brand: Microsoft

System: Win 10 S

Storage space: 256 GB SSD

RAM: 8 GB

Screen size: 12.45 (Touch screen)

Weight: 2.45 pounds

CPU: i5 Gen10, 8-core.

Average Battery Life: 13 Hours

3. New MacBook Air with M1 chip ---- Price: $1199

Configuration (specification) ---- Brand: Apple Inc.

System: Mac OS

Storage space: 512 GB SSD

RAM: 8 GB

Screen size: 13 inches

Weight: 2.8 pounds

CPU: M1 chip (Apple designed), 8-core. (Better than AMD)

Average Battery Life: 18 Hours

d)

For example, 10 points for 1 TB storage space, and 5 points for 512 GB

Weight point for criterion:

(My preference is outdoor convenience and good performance to deal with basic programing, for office use)

(1~10)

Price: 5

Weight: 8

CPU efficacy: 6

Screen size: 7

RAM size: 6

Storage space: 10

Battery Life: 8

e)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Preference for Selecting Laptop** | | | | | | | |
| **Criterion** | **Price** | **Weight** | **CPU Efficacy** | **Screen size** | **RAM size** | **Storage** | **Battery Life** |
| **Weight** | **5** | **8** | **6** | **7** | **6** | **10** | **8** |
| **ASUS Laptop** | **5** | **8** | **7** | **6** | **8** | **8** | **6** |
| **Microsoft Laptop** | **6** | **10** | **5** | **4** | **4** | **2** | **7** |
| **MacBook** | **4** | **7** | **4** | **5** | **4** | **4** | **10** |

|  |
| --- |
|  |
| **Weighted Average** |
|  |
| 6.98 |  |
| 5.36 |  |
| 5.58 |  |

From the weighted average worksheet above, we can know the optimal solution is ASUS’s ZenBook 14, has completely reached my choosing preference. The sub-optimal option is MacBook.

f)

1. It is hard to create the weight criteria without any SOP, I realized it depends on different situation and requirement. However, creating a new one was filled with uncertainty.

2. There are so much information in a real-world setting. The criteria I used to determine the laptop maybe not totally correct.

3. Collecting all the essential information. In this case, we can collect the information on product’s website or on Amazon. However, in other cases, the information will be limited.