Operation analysis

Business

Operation Analysis or Operation Analysis A. 2 (e) Expected Monetary Value (EMV) is an monetary figure calculated to assess the viability of a decision or the potential consequences of an occurrence (Riggs and Bonk, 2008, p. 33). Assuming every outcome is as likely as its alternatives, we can calculate the EMVs for all potential decisions that Susan could take; in the case of a Small-sized station,

Annual returns if the market is: Good: $50, 000

Fair: $20, 000

Poor: -$10, 000

EMV = (1/3) * (50000+20000-10000) = $20, 000

Medium-sized station,

Annual returns if the market is: Good: $80, 000

Fair: $30, 000

Poor: -$20, 000

EMV = (1/3) * (80000+30000-20000) = $30, 000

Large-sized station,

Annual returns if the market is: Good: $100, 000

Fair: $30, 000

Poor: -$40, 000

EMV = (1/3) * (100000+30000-40000) = $30, 000

Very-Large size station,

Annual returns if the market is: Good: $300, 000

Fair: $25, 000

Poor: -$160, 000

EMV = (1/3) * (300000+25000-160000) = $55, 000

Therefore, as evident from a simple comparison of the four different EMV

values, opening a Very-Large size gasoline station is the most feasible option available to Susan, on the basis of Expected Monetary Values.

A. 3 (a)

In the case of Clay Whybark’s choices, all the different states of nature have differing probabilities; therefore the calculation for the best choice from the perspective of EMV will not be very straightforward. The different EMVs are calculated as follows:

Large stock:

Big demand (30 percent probability):$22, 000

Average demand (50 percent probability):$12, 000

Small demand (20 percent probability):-$2, 000

EMV = (0. 3*22000) + (0. 5*12000) + (0. 2*(-2000)) = $12, 200

Average Stock:

Big demand (30 percent probability):$14, 000

Average demand (50 percent probability):$10, 000

Small demand (20 percent probability):$6, 000

EMV = (0. 3*14000) + (0. 5*10000) + (0. 2*6000) = $10, 400

Small Stock:

Big demand (30 percent probability):$9, 000

Average demand (50 percent probability):$8, 000

Small demand (20 percent probability):$4, 000

EMV = (0. 3*9000) + (0. 5*8000) + (0. 2*4000) = $7, 500

Therefore, as shown, a Large stock would provide Clay Whybark the highest EMV value.

A3. (b)

The Expected Value of Perfect Information (EVPI), as indicated by the term

itself, is the abstract monetary value of having certain knowledge of the best decision among two, or more, choices.

In the current case, first we calculate the monetary value of making the best decision in accordance with the prevailing state of nature,

EV| PI = (0. 3*22000) + (0. 5*12000) + (0. 2*6000) = $13, 800

Then,

EVPI = EV| PI – EMVmax = 13800 – 12200 = $1, 600

References

Riggs, T., & Bonk, M. (2008). Everyday finance: Economics, personal money management, and entrepreneurship. Detroit: Gale Cengage Learning.