Cost-benefit analysis

Cost-Benefit Analysis Winnifred Johnson Capella 6/20 COST-BENEFIT ANALYSIS According to Pagliarini et al. , the annual energy consumed for every patient admitted to a hospital is higher than that used in a single-family home. Retrofitting Ashe Memorial Hospital by incorporating low-consumption building equipment and thermal insulation, along with the use of energy generated through renewable energy like solar power, will lay a foundation for increased energy efficiency. This increase in energy efficiency is the best solution for providing high-quality patient care, while also containing the healthcare costs. However, this strategy differs from enhancing energy efficiency when constructing new hospital buildings and, as a result, it is critical that the hospital weighs up the costs and benefits of the strategy exactly. In this case, amortization time or the time needed for this strategic investment to be paid off averaged at approximately twenty years, while the new fittings should be paid off within fifteen years. The specific challenge in undertaking this strategic investment is to increase the hospital’s energy efficiency, while also taking care not to incur high financial costs because the hospital is running at a $1, 809, 618 loss (ahd. com, 2015). The budget for this strategic investment to enhance energy efficiency is shown below;

Ashe Memorial Hospital: Item Description

Cost ($US)

Preliminaries

8, 866. 67

Roof renovations

38, 996. 11

Windows

20, 747. 04

Doors

28, 531. 63

Plumbing and sanitary fixtures

24, 877

Electrical works (power and light)

52, 951. 85

Electrical works (emergency supply of power)

20, 583. 33

Electrical works (alternative supply of power)

34, 374. 07

Mechanical works

16, 373. 70

Interior furnishings

7, 461. 85

Wall finishes

8, 893. 33

Floor finishes

11, 583. 70

Ceiling finishes

8, 918. 15

Code compliance

11, 614. 07

External works

3, 024. 44

New covering at main entrance

3, 007. 78

Gross VAT 15%

45, 120. 83

Grand Total Cost + Contingencies

345, 926. 35

Well-executed and planned retrofits as identified above can lead to significantly more value in comparison to the savings on energy costs. Indeed, not only does this strategic investment enhance the efficiency of some expensive equipment at Ashe Memorial Hospital, but it also increases the life-time of these equipments (Pagliarini et al., 2012). Retrofits that introduce daylight into rooms used by the patients through roof renovations, as well as those that improve the hospital's air quality and reduce the need for air conditioning will deliver increased value in quality of patient care and in terms of costs. For instance, improved air quality by redesigning the windows could reduce airborne illness transmission at Ashe Memorial Hospital, in turn reducing hospital costs. Moreover, Pagliarini et al. (2012) notes that patients in rooms with daylight have lower length of stay at hospitals than those with artificial lighting.

A well-ventilated and attractively day-lit Ashe Memorial Hospital that advertises its lower-carbon footprint could also work to attract skilled nurses and doctors who want a more productive and comfortable workplace (Pagliarini et al., 2012), which is important for a rural hospital that has trouble attracting enough healthcare workers. In addition, the fact that patients today are more empowered and can choose the best hospital to receive treatment from means that environmentally-conscious patients will be attracted to Ashe Memorial because it strives for a lower-carbon footprint.

As a “ green” hospital, Ashe Memorial’s strategy to increase energy efficiency may act as a deciding factor alongside track record and reputation of physicians and other traditional deciding factors (Pagliarini et al., 2012). This will increase the hospital’s market share and improve their revenue. While hospitals are among the most wasteful organizations in terms of energy use and waste, Ashe Memorial Hospital should seek to reduce this wastage by implementing cost-effective energy savings.

References

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