Alex Cicioni

Upgrading Data Center

Our company can benefit from a 3-year net benefit of $13,229,056 million by upgrading to a tier 3 data center. A tier 3 data center consist of multiple redundant parts that can be interchanged without the system going down. With this upgrade, it will allow our company to reduce the amount of downtime our system experiences, which will enable us to save money over time.

One of the largest reasons for this upgrade is it supports N+1. Our company is dependent on one component for everything like capacity and distribution paths. Tier 3 eliminates this worry, and our IT equipment will be dual power. Performing routine maintenance is a crucial part of keeping things running smoothly. This redundancy allows for maintenance on our system without interruption to daily operations and brings equipment and distribution paths to a like-new state. Unlike our current tier 1 system, tier 3 has a 99.98% availability which means no more than 1.6 hours of downtime annually.

The implementation cost of this new data center will be approximately $35,000,000 in year one, which includes the construction of the site. The company will start to save $24,114,528 annually after that. Finally, we will experience a 3-year net benefit of $13,229,056, and our initial investment would be paid back in full.

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Math for business aspect:

Tier 1

Minutes in a year multiplied by 1 - 99.67% availability.

526,000 x .0033 = 1734.48 minutes of downtime annually. 1734.8 x 14800 = $25,670,304 net loss.

Tier 3

Minutes in a year multiplied by 1 - 99.98% availability.

526,000 x .0002 = 105.12 minutes of downtime annually. 105.12 x 14800 = $1,555,776 net loss.

Year 1	Year 2	Year 3	Year 4
-$35 million (installation)	-$10,885,472 (savings)	+ $13,229,056 (investment paid back plus savings)	+ $24,114,528 (full savings)

Reference:

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