

Pengsam Po

Professor Doyle

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Data Center and Networking

Our company can save roughly \$48 million if we upgrade our current Tier 1 data center to Tier 3 data center. Tier 3 delivers more functionalities, such as multiple power and cooling distribution paths to maintain full operation while performing maintenance. By upgrading to a Tier 3 data center, our company will have a total net benefit of \$13 million.

A Tier 3 data center is better than a Tier 1 data center because it can reduce down time and provide power outage protection. Currently, our Tier 1 has a 99.67% availability, while a Tier 3 would have a 99.98% availability. The benefits are reducing annual downtime by 94% from 29 hours of downtime to only 1.8 hours of downtime, dual power equipment, and 72-hour power outage protection. The additional equipment helps support normal activity during maintenance or failure so that there is no interruption to the system. All the important components in the data center would have a backup ready to take its place.

This project will cost us \$35 million, and it will take one year to implement it. Every minute of downtime costs us \$14,800, so if we upgrade to Tier 3 which has 0.31% more availability, we will see a saving of \$48 million in three years by reducing downtime. Over the course of three years, our company will enjoy a net benefit of roughly \$13 million. Therefore, by upgrading from Tier 1 to Tier 3 data center, our company will improve uptime availability, increase revenue, and improve our company's overall business value.

Figures

Figure 1: Comparison between Tier 1 and Tier 3

Data Center	Minutes Per Year	Availability	Downtime Minutes Per Year	Downtime Cost Per Minute	Total Downtime Cost
Tier 1	525,600	99.67%	1734.48	\$14800	\$25,670,304
Tier 3	525,600	99.98%	105.12	\$14800	\$1,555,776
				Savings Per Year	\$24,114,528

Figure 2: Project Costs and Benefits

Investment	Year 1	Year 2	Year 3	Total
Costs	\$35,000,000	\$0	\$0	\$35,000,000
Benefits	\$0.00	\$24,114,528	\$24,114,528	\$48,229,056
			3 Years Net Benefits	\$13,229,056

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