

Liwei Yi

Flash Research Paper#1

Our Company should build a “Tier III” data center, because which can provide a net benefit of \$13,229,056 over three years. “Tier III” is an advanced data center, and it can improve our ERP system and mitigate outages problem. It can also decrease downtime, in order to save \$24,114,528 per year from effective operation.

Compared to the inefficiency of our current data center, “Tier III” will help us develop a sustainable operation system and maintenance system. The “Tier III” has redundant capacity components and multiple independent distribution paths, which can run our system when the main capacity components and distribution paths encounter problems. Also, the “Tier III” has sufficient permanently installed capacity to meet the needs of the site when the redundant capacity components and distribution paths are removed from service. By comparison, the “Tier I” will require most or all of the site infrastructure systems to be shut down. Finally, the “Tier III” can be performed by using redundant capacity components and distribution paths to safely work on the remaining equipment during the planned site infrastructure maintenance.

“Tier III” will greatly benefit our company over three years. We will invest \$35,000,000 in the first year to build up the “Tier III” data center. In the second and third year, we can earn a combined \$48,229,056, which will create a net benefit of \$13,229,056 over three years.

Additionally, the downtime cost of “Tier III” will decrease to \$1,555,776 per year from original \$25,670,304 per year.

	Downtime costs per minute	Availability	Downtime	Cost
Tier I	\$14,800	99.67%	1,734.48min/year	\$25,670,304
Tier III	\$14,800	99.98%	105.12min/ year	\$1,555,776
			Downtime costs difference	\$24,114,528
	Year 1	Year 2	Year 3	Total
Cost	\$35,000,000	\$0	\$0	\$35,000,000
Benefit	\$0	\$24,114,528	\$24,114,528	\$48,229,056
			3 Year Net Benefit	\$13,229,056