**Data Centers and Networking**

The company experienced 10 outages to its ERP system which caused the company to lose significant amount of money. These outages bring business processes to a standstill as employees cannot process orders, make product, or ship product. This significantly affects the company’s revenue and profits for the year. Moreover, this damages the company’s reputation as customers needs cannot be met on time. This is causing the company to lose customers to its competitors and therefore is likely to impact the long-term growth of the company. In order to address this issue, the company can install Tier III datacenters which are likely to reduce the number of outages to the ERP system and save the company a significant amount of money.

Tier I data centers, that the company currently employs in its operations, have no redundant capacity components which means it is more susceptible to outages. The site is susceptible to disruptions from both planned and unplanned activities, such as operation errors in site infrastructure components. Planned work will require most of the site infrastructure systems to be shut down affecting critical environment, systems, and end users (Uptime). On the other hand, Tier III data centers have redundant capacity components and multiple independent distribution paths serving the critical environment, making it less susceptible to outages. Each and every capacity component and element in the distribution paths can be removed from service without impacting any of the critical environment. There is sufficient permanently installed capacity to meet the needs of the site when redundant components are removed from service for any reason (Uptime). Tier III data centers are equipped with 72-hour power outage protection (Colocation). They also ensure a maximum downtime of 1.6 hours per year. Power-packed arrangements are available in these data centers to deal with undesirable cause, such as component failure, power fluctuations and catastrophes (Rank Bank).

Although the initial outlay for the investment will be $35,000,000 and duration for installation will be one year, the benefits derived from the new Tier III data center will be valuable for the company. Tier III data centers provide an availability of 99.98%, compared to the 99.67% of Tier I data centers. Every minute of outage is expected to result in an $14,800 loss for the company. As the calculations in the appendix A show, Tier 1 data centers have an expected loss of $25,670,304 per year while Tier III data centers have an expected loss of $1,555,776 per year. This shows that by employing Tier III data centers, the company can save almost 24,000,000.

**Appendix A**

**Calculations:**

Per Year Expected Loss:

Tier 1 = (99.67% \* 525600 \* 14800) = $ 25,670,304

Tier 3 = (99.98% \* 525600 \* 14800) = $1,555,776

**Works Cited**

Gupta, Rishika. (January 5). *Benefits of Choosing Tier III Data Center*. Rack Bank. Retrieved from <https://www.rackbank.com/blog/why-to-prefer-tier-3-data-center/>

Colocation America. *Data Center Standards*. Retrieved from <https://www.colocationamerica.com/data-center/tier-standards-overview.htm>

Uptime Institute. *Data Center Site Infrastructure Tier Standard: Topology*.