

COUNTRY : INDIA  
REGISTRATION NUMBER : 5734

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**Introduction:**

Question number 6 is regarding the ways followed by the power industry for implementing the intelligent IT solutions. It's the current point of discussion in the power industry.

The IT solutions which are related to business processes enable all kinds of devices to interact about their state with other systems for taking actions based on the information and doing various analysis. Power Industry companies have traditionally used technology to optimise and control assets, improve safety, manage the grid, increase resilience, despite rarely being on the cutting edge. Advanced metering infrastructure (AMI), Supervisory Control and Data Acquisition (SCADA), Substation Automation System (SAS), Application softwares etc. are such examples IT solutions.

The rapid evolution of foundational digital technologies is accelerating innovation. Three essential elements of digital technology—computing power, data storage, and bandwidth utilization have cost-performance curves that have been expanding rapidly for many years. The innovations built on top of these essential exponential technologies are advancing quickly as the rate of progress quickens. Right now, technology is developing at a historically unprecedented rate. Because of this, experts in the power business frequently lack the necessary skills to keep up with IT advancements and utilise their primary functions.

Now a days power sector utilities requires infrastructure with back up control center either on dedicated hardware or on cloud. The availability of system is very crucial and needs special attention. Generally, on technology front help are being taken from the IT industry giant in this aspect. With exponential growth in IT interaction, cyber security is also point of concern. It is difficult task for a small power utility to have a separate team for its Security Operation Center (SOC) for its infrastructure. In that case often small power utilities are taking cloud based SOC, which is helping them to optimise the cost and resources as well.

**Internal R&D departments at energy utilities for IT solution:**

With the advancement of technology, R&D is essential for the power sector's growth and long-term profitability. It can serve as a seed for new items, the improvement of current ones, or increased production process efficiency. R&D is mostly done to improve the level of technology today. The goal of basic research is to provide new information that will, in the end, enable successful commercial implementations of cutting-edge technologies. R&D is an expensive, dangerous endeavour with unpredictable results. Costs are frequently incurred years before a business can see returns or other advantages. Companies are unwilling to invest in the R&D area, which is shifting concerns about R&D in the power sector.

It became more and more challenging for utilities to justify the cost of entire in-house research facilities as the rate of technological change quickened. It would be wiser for utilities to have new contract instead of going for research and development with these funds. Therefore, using internal R&D divisions inside the power sectors to produce IT products would not be wise. However, utilities frequently use their own internal resources to create the customised software application when developing tiny amounts of software. It aids in completing the product in the shortest amount of time.

### **Outsourced: IT-companies, including international IT giants and research institutions**

Companies in the energy sector balance the traditional benefits of outsourcing a part of the IT value chain in the digital age. Many businesses have given up on managing their IT operations in favour of focusing more on their core business operations. Additionally, it aids in significantly reducing IT expenses and removes the growing difficulty of hiring individuals with the required skill set internally with expedited development deadlines.

The business can cut costs in this way while still having access to skilled workers. In the end, it is the greatest choice for businesses that want to concentrate on work that generates more income.

The most crucial aspect to take into account when choosing an outsourcing partner is depth and breadth of experience. An outsourced partner has extensive experience across a variety of fields as well as extensive experience within each field. It also has a basic awareness of contemporary technologies. They also have a solid understanding of the commercial realities and how to apply these technologies to meet market demands.

Confidentiality of confidential data is unquestionable. The majority of goods in development are connected to intellectual property, thus a contracting company that cannot show that it is committed to handling these concerns correctly should not be hired.

Reliability is one of the most important qualities of a professional IT companies. They follow the schedules as the project develops and make note of any delays, mistakes, or departures from the initial requirements.

Speed is a related topic. The project needs both parties to be responsive. Flexibility is additionally crucial. As the project advances, the demands can be handled in a flexible manner by the outsourced resources.

The requirement of the deregulated utility business environment has led to a substantial surge in outsourcing in the utility sector. Market dynamics are rapidly evolving. Utilities are rushing to reduce costs, enhance customer service, and expand their product offers. Those who take too long to adapt will fall behind and find it difficult to catch up since they lack sufficient knowledge and experience of the regional market.

Power sector in most of the cases calls for international competitive bidding, wherein the international IT giants can participate. In such case estimated cost plays a vital role for

participations. Generally, international IT companies bid in the project with higher margin than that of the domestic IT bidder.

**Conclusion:**

Requirement for a power utility to opt for R&D cell, outsourcing domestic IT company or international IT giants depend upon the requirement and cost of the project. In case cost and delivery time is low, power utilities opt for internal resource only. For long duration projects life cycle where hardware and software involvement are there, power utilities mostly reply on the outsourced resource only, as this is not their core business.