Chapter 11

The Restructuring of the Electric Utility Industry: Applying the Delta Model to an Industry in Transition

Andy Grove, the chairman of Intel, coined the term the ‘10X force’ in his book Only the Paranoid Survive. A 10X force occurs when an element of business changes an order of magnitude larger than anything the company has seen before. A 10X force is the impetus for a complete restructuring of the business. Grove suggests potential sources of 10X forces: technological discontinuities, globalization, and regulatory change.

In this chapter we look at the impact on the electric utility industry of the 10X forces of deregulation and technology. The U.S. electricity market has $200 billion in revenue and $550 billion in assets. The market is extremely large in comparison to the much publicized airline sector, which has only $25 billion in annual revenue. The industry is fragmented with thousands of utilities serving a mature, 2%-growth-per-annum market, and the largest utility has only a 4% market share. It is an industry ripe for restructuring and consolidation. In this chapter, we examine how the Delta Model can be applied in support of a better understanding of the strategic changes that are taking place.

This example is particularly relevant and significant because many industries are in the midst of disaggregation, often caused by tumultuous change wrought by the networked economy.

Deregulation in the Electric Utility Industry

Deregulation is transforming whole industries for many developed countries. Every state in the U.S. is engaged in deregulatory activities intended to create open, competitive electricity markets. The Federal Energy Regulatory Commission (FERC) leads this transformation at the national level.

Beginning as early as 1998, fifteen states began to implement open access, which allowed customers to access competitive electricity
providers. This regulatory reform covered roughly 38% of the U.S. population. Another 15 states have initiated proceedings on the subject. At the federal level, nine bills have been introduced in an attempt by legislators to be consistent with legislation at the state level. Nevertheless, actions at the state level will unavoidably lead to variations in timing and to a broad range of approaches to the deregulation.

**Difficulties in the Deregulation Process**

Three primary hurdles must be overcome to ensure an effective, fair, and competitive marketplace. First, the electric utility industry has long had as part of its culture a belief in an ‘obligation to serve.’ Electricity is seen as a necessity in the developed world and the local utility does not have the option to refuse to provide power (except to customers who fail to pay over an extended period of time). As the industry disaggregates, it is less clear who owns the ‘obligation to serve.’ Second, most vertically integrated utilities are heavily capitalized in generation, transmission, and distribution assets. If the marketplace is suddenly opened to competition such that any entity can move electricity across existing lines to sell to customers, the issue of ‘stranded costs’ surfaces. Some experts have estimated that there are up to $125 billion in stranded costs. Every state in the process of deregulating is grappling with this issue in order to protect the investments of the existing utilities while creating a level playing field for all participants in the open market. Third, the mechanism for pricing electricity in the open market is still far from perfect. Several models have been developed in countries such as Chile, Norway, and the United Kingdom but none of these models has been heralded as the definitive solution.

**Parallels with the Computer Industry**

The computer industry was, until the 1980s, vertically integrated. The major players, including IBM, DEC, Univac, Burroughs, Sperry Rand, and Wang, produced their own chips, developed their own operating systems and applications software, and created their own distribution networks.

A very close parallel can be drawn to the electric industry today. Utilities, in general, produce their own power (generation), transport this power over their own lines (transmission), and distribute the power over local lines to the end-user (distribution).