White Paper

E-Business in the Power Industry: Transforming the Competitive Landscape

E-business represents one of the most significant paradigm shifts ever to occur in the energy industry. As the new economy shifts companies from an asset focus to an information focus, executives need to understand that e-business changes the way to look at business and is not only about technology and a website; e-business needs to be integrated into a company's overall strategic vision; e-business will cause a major shift in a company's overall infrastructure; and successful e-business transformations need to be done from the top of the organization.

“You have to breathe all day to stay at your desk, don’t you?”
Jack Welch, CEO General Electric

Global market conditions for utilities are creating entirely new rules for how companies conduct business and create value. In the past few years, major shifts such as deregulation, globalization, the integration and greater efficiency of capital markets, and the dramatic consolidation and convergence of industries have created a new competitive landscape for the electric power industry.

Connectivity among market participants – suppliers, customers, and partners – becomes increasingly important across the entire value chain. The emerging energy e-marketplace drives lower energy prices; lower cost of operations; innovative products and services; enhanced business processes and efficiencies; and increased customer quality and satisfaction.

This white paper surveys the e-business landscape of the power industry and the many changes that are both taking place and on the horizon. Looking beyond that horizon, the evolving market is examined to identify what electric power companies should be doing now if they are to create value and succeed in the future. “You have to be in e-commerce in every element of your business, in all of your supply chains, in all of your information flows, in all of your communications, in all of your customer interactions. This is not some activity outside the business – this is the business.

E-Business: A New Stage of Development for the Energy Industry
For the power industry, e-business represents one of the most significant business imperatives in recent memory. Industry leaders expect this phenomenon to fundamentally change the ways in which the energy sector conducts commerce. We should expect an industry that makes money on assets to one that focuses on customers and makes money on information. Wall Street, which has traditionally overlooked the potential for e-business applications in the power industry, now places a premium on energy companies that demonstrate e-business strategies and processes.

E-Business Demands New Thinking
E-business encompasses more than just selling products and services through an electronic medium. E-business is about the exploitation of information networks to gain and systematically leverage competitive advantage.

Revolutionary Impact
E-business forces companies to ask the question, “What business am I in?”

The advent of Web-based exchanges and private marketplaces for energy and equipment, and information resources, software, and other energy-related services disrupts the traditional value chain. Within this transformed environment, significant opportunities for value creation exist in all e-business spaces, provided companies account for and leverage the following:

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E-business drives new industry dynamics. Increased pressure on prices and customer focus impacts the onset of new competitive forces, such as alliance/partner relationships, existing competition, new offerings and competitors, connectivity with customers, and connectivity with suppliers.\(^1\) Companies need to build specific competencies and overcome numerous challenges to be successful. Current business trends show that businesses are re-evaluating their strategies and organizational structures to maintain a competitive edge in the new economy.

Connectivity with Customers
The combined forces of increased customer choice and e-business push power companies to more fully understand and fulfill customer needs. Connectivity of the customer becomes a critical success factor. E-business provides a 24x7 window into the customer’s mind, streamlining the customer service process.

Customers will demand more from their suppliers – the provision of energy coupled with unique products and services. The Web represents an important channel for these new revenue sources. Customers will demand customization and personalization in their Web experience. The Web not only allows for this, it demands this. Connecting the utility’s processes with those of the customers creates an additional and compelling reason for customer loyalty in this increasingly commoditized business.

Connectivity with Suppliers
Connection with key suppliers represents a critical new aspect of the changing economy. E-markets fundamentally change interactions with suppliers. Connection through the new electronic marketplace greatly enhances these relationships in a number of ways. Reduced costs and streamlined processes are only the first benefits that will be realized. The greatest benefits will be the new relationships that core suppliers to the industry will have with the industry as a whole. E-markets will promote and enhance this concept over a relatively short time.

New Offerings and Competitors
E-business will accelerate the introduction of new products and services to customers. Through connectivity between customers and suppliers, companies will be better able to anticipate and rapidly fulfill customers’ needs. Furthermore, they will be able to shorten the product/service development cycle through their connectivity with key suppliers.

Alliance/Partner Relationships
The conduct of Web-enabled business disrupts “traditional” competitive and friendly relationships and also creates entirely new means of conducting business. Alliances among competitors are forming in many industries to take advantage of economies of scale and to extract increased efficiencies throughout the value chain.

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Increased cooperation resulting from alliances enables companies to develop offers that are not only cost-effective but also improved and innovative. Many companies are engaging in co-branding and joint marketing to make offers that cater more to their customers’ needs – an action that each company alone might not have had the expertise to carry out before.

Existing Competition
E-business has, in many instances, put customers in the driver’s seat with respect to availability, pricing, and quality of products and services. It has become imperative that companies have strong marketing capabilities and brand imaging to maintain and enhance competitiveness. The utilities industry must move quickly to respond to this emerging trend. Otherwise, companies ranging from energy service providers to consumer product companies might enter the market to provide the same or better level of service.

Physical restrictions, such as service territories, pose less of a barrier for new economy companies that want to enter the market. With deregulation, customers may choose their energy providers, generating opportunities for companies with sharp marketing skills and innovative bundles of products and services.

E-Business Evolution
As commerce increasingly shifts to the Internet, power companies must develop a keen understanding of their relative participation in Web-enabled commerce. This understanding provides the framework for developing e-business strategies necessary to deliver success in the new utilities landscape.

Stages of E-Business Evolution
Based on recent experience, there appear to be four stages that define e-business evolution: Channel Enhancement, Value Chain Integration, Industry Transformation, and Convergence. Power companies seeking to harness and leverage the power of e-business must respond to the new competitive forces along two paths:

- Enabling and Transforming: The “enabler” path represents incremental change to the organization’s existing model and provides the opportunity for “quick wins” in the areas of cost reduction and improved business processes.
- Channel Enhancement: Within the channel enhancement snapshot, companies use e-business technology as an enabler to modify existing business processes and, in some cases, to create new ones targeted at improving business performance. Within this, companies employ e-business technology primarily for information sharing and e-commerce – essentially establishing a new channel to market.
- Value Chain Integration: As the level of Internet competence and confidence grows, companies search for the next major step in e-business leverage – specifically, companies leveraging e-business as a vehicle for value chain integration.

In a mature state, value chain integration allows companies to share real-time planning, cost, and production data between Enterprise Resource Planning (ERP) systems, thereby allowing for creation of a fully-enabled “enterprise,” a term used to describe an extended enterprise between the company and its value chain partner(s).

As part of this analysis, some businesses take steps to seize the advantage afforded by the low cost of moving data, and to revisit the idea of outsourcing non-core business processes throughout the value chain. Other industry players are seeking to transform themselves and, in turn, the industry, through the radical application of e-business strategies, processes and implementation methods. This path presents the greatest risk and the potential for the most rewards.

- Industry transformation: E-business creates ways for companies to maximize shareholder value by completely transforming their industries. As the lines between businesses become less pronounced, companies will find ways to work together that leverage each other’s core competencies.

The phrase “going to market” will no longer be defined as the way a company enters the marketplace. Rather, it will characterize the way an integrated group of companies creates a set of cascading values to transform the marketplace into a network of value providers.

Companies with a core competence in knowledge management will thrive in this third snapshot. They will use business partners that have created best-in-class processes in the physical world and others that build and run the best value networks to transform the economic base and the operating mechanics of their industries.

- Convergence: Convergence is the coming together of companies in different industries to provide goods and services to customers. It is as much a function of industry deregulation and globalization as it is of enabled business models. Convergence is not necessarily just an e-business phenomenon. In theory, convergence could occur in the complete absence of e-business. However, the continual decline of the cost of moving information makes convergence easier and cheaper to accomplish.

A supermarket’s offering of retail banking services is one example of convergence. Others are the emergence of software providers as “infomediaries” and the coalescing of many services and products in those segments of the utility industry that are being deregulated. The Internet is fueling more convergence by providing customers a one-stop shop for all of their desired products and services. Companies that capture customer loyalty and that can provide such one-stop shops for a customer market will be positioned for enormous growth.
Many utility companies are moving from a single company model (e.g., an electric utility generates and sells electricity) to a two-company model (e.g., an entity operates as a generating company and the other as a sales company). The sales companies compete for customers not only on the price of the electricity they transmit, but on the other value-added services they provide (i.e., selling natural gas, connecting customers to electric (or gas) appliance manufacturers and installers, or aggregating utility bills into single monthly statements).

**Categories of E-Business**

There are three core categories of e-business, and each category has its own set of unique strategic, performance, and technology considerations that it must consider.

**B2B**

Analysts predict that 90 percent of e-business will be in this area. B2B transactions cut capital and process costs, and decrease fulfillment time. Companies are increasingly examining their core competencies and are reshaping their own value chains and often the value chain of an entire industry. Old intermediaries (e.g., wholesalers) disappear and next generations of intermediaries emerge (e.g., exchanges, auctions, and e-catalogs).

**B2C**

Many companies have moved beyond the e-tailer phase into the market of aggregation (e.g., Yahoo!) or Infomediary – the strategic use of customer information.

**B2E**

Companies can obtain significant benefits by using intranets for transactions in functions such as HR and finance. Paperwork decreases, communication increases, and information can be delivered real time globally.

**Emerging Dominance of B2B as Industry Transformer**

The appeal of bringing together huge numbers of buyers, sellers, and customers and reducing transaction costs for all parties will likely generate the most activity and transformation in the B2B e-commerce space. This evolving market is rewarding management teams that understand the new market dynamics and are designing and building new business approaches and models.

The B2B transformation is forcing major institutions to move quickly to:

- Identify non-core processes, both supply/demand chain and back office that can be outsourced, so the company can focus on “core” financial, brand, and human capital.
- Develop very dynamic outsourcing markets, beginning with parts and other supply purchasing. The goal is to tap into the connectivity of the Internet to conduct efficient auctions and transactions and dramatically improve the performance of supply chain and back office processes.
• Create entirely new businesses to manage these new networks and disintermediate traditional businesses so that customers have increased access to the supply chain and can gain even more rapid response to their demands.

“What’s my return on investment on e-commerce? Are you crazy? This is Columbus in the New World. What was his ROI?”

Andy Groves, Intel

What Should Power Companies Be Doing Now?
The successful energy companies will be open to and encourage new business models and ideas. They will aggressively seek to understand the e-business drivers within the industry and adopt rapid, decisive strategies to dominate the industry for the next few years. They will fundamentally change the culture of their company – from an asset focus to an information focus.

This market demands an entirely new business culture and set of processes. Companies need to be able to create as many options as possible to attack the market, to change products, to improve processes, and to restructure their organizations. At the same time, they need internal business management approaches that identify the best of these options and rapidly adopt them to create value.

In this journey, leading energy companies are developing enterprise-wide e-business strategies or aggressively pursuing e-business solutions. Some of the most common value propositions include:

• Cost Competitiveness: E-business enables aggressive outsourcing of internal and customer service-related processes and significantly reduces supply chain transaction and material costs. E-procurement expertise and technologies will result in reducing the utility’s spend by more than 10 percent, reducing transaction costs more than 75 percent, and greatly enhancing internal productivity.

• New Competition: Web upstarts and industry convergences pose a significant threat given traditional utility industry characteristics (highly regulated, fragmented market, low brand value). The traditional utility must focus on a winning strategy comprehensive of branding, personalized websites, integration with front-end (CRM) and back-office (ERP) operations, etc.

• Retain and Reach Customers: In the competitive world, the Internet will become the main method of interaction with customers requiring personalization and effective Customer Relationship Management. This is especially critical for those utilities focused on serving large Industrial & Commercial customers on a national basis.

• New Business Ventures: Vertical industry portals and other equity ventures are becoming the norm in the marketplace, and thereby providing utility companies with opportunities to realize profit from new sources.

Recognizing and capitalizing on these value propositions is the first step in developing a credible and sustainable e-business strategy. The winning companies are those that create the best set of options and rapidly adopt them. Winners will also recognize that not every e-business option will engender immediate financial payback.

Conclusion
E-business represents one of the most significant paradigm shifts in the energy industry. As the new economy shifts companies from an asset focus to an information focus, executives need to be focused on several key messages:

• E-business changes the way to look at business and is not only about technology and a website.

• E-business needs to be integrated into a company’s overall strategic vision.

• E-business will cause a major shift in a company’s overall infrastructure.

• Successful e-business transformations need to be done from the top of the organization.

Footnote
1 The model described is a PricewaterhouseCoopers’ adaptation of the well-known Porters Five Forces Model to an E-Business Economy.