

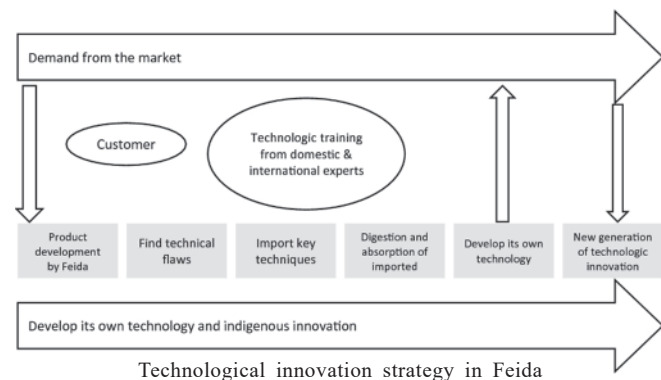


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Don't blame the government for lack of support. Innovations will come from inside: openness to ideas and action

A continuous focus on technological innovation is critical for a power company to respond to the increasing needs of pollution prevention. The pollution prevention and control equipment are supplied by the vendor companies. Generally, the evolution of technology in the power industry has been driven by four main factors, namely the demand for enhanced performance, needs of the society and market, the internal capabilities and the long term vision of the company, and its links to international leading technology supplier companies. Almost always innovation starts after the company acquires and internalizes the adoption of the technology. One of the pathways the companies have used is to improve its technology performance is through the purchase and importing of key technology from the vendors and by starting collaboration with the vendor companies for mutual benefit.

Let us take the example of Feida. Feida was founded in 1969 in the Zhejiang Province in China. Feida has specialized in power plant emission control systems from the 1980s, and set up a research institute on electrostatic precipitators (ESPs) with the help of the UN development programme. ESPs can remove fine dust and small particles from gases and smoke and are widely used in power plants that use coal. Feida became a leading firm domestically in ESPs and broader environmental technologies and received the title of national flagship enterprise and equipment manufacturing base for environmental protection machinery because of its solid performance and good reputation. Feida was named as "Pilot Enterprise of Environment Protection" by the United Nations Environment Programme for their contribution toward environmental protection in China in 2011. For example, it has obtained ESP technology through a license from Alstom in the 1980s and later in 2004 also obtained a license for fabric filter technology for particulate removal of coal-fired power plants. More recently in 2013, it obtained wet ESP technology from Mitsubishi-Hitachi (MH) while in 2014 it established a joint venture with MH for environmental systems business development, where technology from MH would be customized for the domestic Chinese market by Feida and MH together in



the joint venture.

A steady flow of innovation may be necessary to remain attractive to customers; this can be a range of incremental innovations or every now and then a new business model or pioneering innovation, depending on the industry in which the firm is active. In a competitive industry environment, a company's internal learning ability is critical for its innovation capabilities and innovation output, and the significance of its innovation output influences the company's reputation and brand performance. Apart from internal sources and capabilities for innovation, it is well established that the nature of innovation in firms is also connected with the context in which it operates which can be represented by a broader innovation system. The capability of a firm to innovate is therefore not solely determined by internal factors, such as its vision, strategy, culture and organization, but also by the nature of a firm's interaction with external actors, such as competitors, knowledge institutes, government organizations, users and capital providers and institutions such as regulators of the electricity sector and power plants as have been in the case of Feida. These interactions are shaped to some extent by firms themselves, but also significantly by the nature of the innovation system in which they operate. This innovation system shapes the direction of innovation and consists of various actor groups that are connected to the production, use, and function of the innovation practices.