

Estimados suscriptores:

El libro "Making Innovation Work: How to Manage It, Measure It and Profit from It" (Wharton School Publishing) por Tony Davila, Marc J. Epstein y Robert Shelton plantea la premisa de que la innovación es un proceso que debe ser administrado, medido y realizado continuamente en todos los productos, servicios y funciones de negocio.

Una de las tesis centrales del libro es que la innovación puede buscarse tanto a través de tecnología como de modelos de negocio. Veamos primero los diferentes papeles que puede jugar la tecnología: cambios en los productos y servicios, tecnologías de proceso, y tecnologías habilitadoras.

Las tecnologías que cambian los productos o servicios son las más visibles por el consumidor final; por ejemplo: un dispositivo de memoria de más capacidad, una gasolina menos contaminante, un servicio de consultoría más fácil de entender o aplicar. Sin embargo éstas no son las únicas innovaciones a través de tecnología: hay innovaciones "tras bambalinas" que pueden tener un efecto revolucionario.

Las tecnologías de proceso se utilizan para innovar en la manera como se producen los productos o servicios. Algunos ejemplos son: tecnología para extracción de petróleo, para producir electricidad, para utilizar menos cantidad de material, o para fabricar de manera más eficiente, rápida o con menor consumo energético. En cada caso, la tecnología de proceso permite que los productos sean de mejor calidad y/o más económicos. La reducción en el costo de producción es crítico en las industrias de productos indiferenciados (commodities), pero es importante en cualquier producto o servicio.

Las tecnologías habilitadoras (enabling technologies) "en lugar de cambiar la funcionalidad del producto o el proceso,... permiten a una organización ejecutar sus estrategias mucho más rápido y hacer que el tiempo sea una ventaja competitiva. Un ejemplo es la tecnología de información que facilita la comunicación entre los diversos participantes de la cadena de generación de valor".

Otro ejemplo de tecnología habilitadora es el uso de análisis de decisiones en General Motors y en la compañía petrolera Chevron para aumentar la rapidez (y calidad) de las decisiones de esas empresas.

"Aunque las tecnologías habilitadoras son las menos visibles para los clientes, la innovación a través de esas tecnologías puede ser muy importante porque asegura una mejor toma de decisiones y una mejor administración financiera".

Los autores expresan que este nuevo modelo de innovación requiere integrar la administración del modelo de negocios y las tecnologías de la empresa. Esto no es sencillo porque "tradicionalmente las organizaciones crean y administran los cambios a los modelos de negocio en partes de la organización que están muy alejadas –física y culturalmente—de donde se administran los cambios en las tecnologías".

Les anexo un fragmento del capítulo 2 de este libro. En el próximo mensaje comentaremos sobre el papel del modelo de negocio en la innovación.

Reciban un cordial saludo.

*Roberto Ley Borrás*

**Making Innovation Work: How to Manage It, Measure It and Profit from It**

Tony Davila, Marc J. Epstein and Robert Shelton  
Wharton School Publishing

Fragmento del capítulo 2

**Technology Change**

Sometimes new technologies are a major part of an innovation, and they stand out and garner significant attention. Other times, the new technologies are hidden out of sight and can only be seen by the technical people servicing them. Either way, technology change can fuel innovations in three distinct ways; namely in

- \* Product and service offerings
- \* Process technologies
- \* Enabling technologies

**Product and Service Offerings**

A change to a products or service that a company offers in the marketplace -- or the introduction of an entirely new product -- is the most easily recognized type of innovation because consumers see the changes first-hand. In today's fast-changing market, consumers have come to expect significant and recurring technological innovation of this type. Consumers have been conditioned to expect product innovation to such an extent now that it is common for people to time their purchases -- waiting for the release of a new model of an MP3 player with additional features and increased storage capacity.

Other examples of product-based technology innovation include the frequent new features released on mobile phones and automobiles. New "blockbuster" prescription drugs are also the result of this type of innovation. McDonald's introduction of low-fat oil enabled it to capture a new market segment -- health-conscious consumers -- with the same product and service offering. The new oil does not affect the taste (or perceived quality) of its offering but makes the product attractive to an entirely new segment, and possibly enhances the attractiveness to existing customers. McDonald's pioneered this approach to fast food, and it has enabled the company to maximize the value out of its existing product and service offering.

While this type of innovation is very important and can have a significant impact on company success, it is not the only form of technological innovation.

**Process Technologies**

When we think about technology innovation, we think about innovation that drives the performance of the products or services that the company offers. For example, when we think about memory chips we think about capacity, access speed, or even energy consumption. Product innovation comes to mind because it quickly translates into functionality that the customer can value and price. But product innovation is only one application of technology.

Changes in the technologies that are integral parts of product manufacturing and service delivery can result in better, faster, and less expensive products and services. These process technology changes are usually invisible to the consumer but often vital to a product's competitive posture. Examples include food processing technologies, automobile manufacturing, petroleum refining, electricity generation, and manufacturing in every industry. Process technologies also include the materials used in the manufacturing, because manufacturing and materials are intimately connected. For service providers, the process technologies are those elements that allow the service to be delivered -- the equipment that sends and receives the telephone signals that make up phone service, the package sorting stations, and delivery trucks

that allow packages to be delivered by express package service companies, and the airplanes and airports that provide air transport services. For products and services, process technologies are an essential part of the innovation equation.

Companies continually strive to make changes to the process technologies that could reduce cost and improve the quality of existing products or services. This is especially true in commodity products or services where it is increasingly difficult to differentiate the product or service; in commodities, cost is often the only way to compete. Certainly the electric utility industry feels this cost pressure in production, transmission, and distribution of electricity. However, the competitiveness of all products and services are benefited by improvements in process technologies.

### **Enabling Technologies**

A third source of technology innovation resides in what we call enabling technology. Rather than changing the functionality of the product or the process, enabling technology enables a company to execute the strategy much faster and leverage time as a source of competitive advantage. For example, information technology facilitates the exchange of information among the various participants in the value chain. Closer communications speeds up business processes from product development to supply chain management.

Though the least visible to customers, change in enabling technologies, such as information technologies, can be very important because they help ensure better decision-making and financial management. For example, Wal-Mart has made important changes to its enabling information management technologies, with significant improvement in its ability to track and manage its partners, the supply chain, and finances.

This new model of innovation requires integrating the management of business models and technologies inside the company. But this integration does not always occur. Facing increasingly effective competition, Intel in 2004 was spending billions on developing and commercializing technology innovations but not apparently on business model innovation. The question asked in Silicon Valley was not whether Intel had the right technologies but did it have the right business model to compete in the years ahead. It appeared to many that business model and technology innovation had become separated. Traditionally, organizations create and manage the changes to business models in parts of the organization that are far removed -- physically and culturally -- from where the technology change is managed. Successful innovation depends on the integration of the mental models and the activities regarding business models and technology management.

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