Business Innovation Consulting LLC

Specializing in Business, Product, and Technology Innovation

Technology Convergence Satisfies Rising Product Expectations

Insights: Technology Convergence

Many companies are caught between rising functional expectations and increasing value expectations for products and services. The rising functional expectations bar, driven in part by smart phones and other devices, makes many existing products seem ordinary and uninspiring. Increasing value expectations drives prices for common products downward, due to their relatively narrow capabilities. A solution to both challenges is Technology Convergence.

Rising Expectations

Few areas have seen such explosive growth of functional expectations than devices that are connected to, and interconnected with, wifi and the internet. While this trend is not entirely new, key advances continue to drive low-cost approaches that have yet to hit their zenith. According to IMS Research, "The number of devices shipping with Wi-Fi inside is forecast to expand to 2.6 billion annually by 2016, as the Internet of things becomes an even more prolific part of consumer lifestyles and business operations."

Consider the case of the household thermostat. Rather than exist as a standalone product, the developing expectation is of a smart device that can be controlled (and even learn the user's behavior and preferences), while allowing easy mobile access.

> Nest Thermostat - low cost ($1) wifi chipsets, prevalence of wifi in homes, wifi capability of mobile devices, elegant designs, and simple user interfaces (think iPod) – all being driven by the need for energy efficiency, flexibility, and convenience have created an opportunity for a new spin on an old product.

What other opportunities await for companies that consider technologies from traditionally unlikely sources? How about a power toothbrush that uses "prolific" wifi technology to create new business models and reward systems?

> (Hypothetical) Oral Care Device that provides a wifi link to Dentists to transmit tooth decay and gum diagnostic data, and allow users to follow a prescribed brushing regimen. The device can also communicate with suppliers of toothpaste or other consumables to trigger reorder, and establish a reward incentive system for good behavior.

Increasing value expectations provides an opportunity freshen, extend, and differentiate flagging products by increasing incremental value along important dimensions (convenience, efficacy) – where the prevailing technologies are tapped out.

Open Innovation and Technology Roadmaps Provide Part of the Solution

In each case above, the key to success lies in the convergence of technologies – often from areas outside the expertise or capability of the product company. Two approaches have garnered recognition in attempting to bring this idea to fruition, and each play a role in the overall larger concept of technology convergence.

Business Innovation Consulting
15 New England Exec Park
Burlington, MA USA
01803
T. 781.581.5700
F. 347.625.6445
W. www.bicvalue.com

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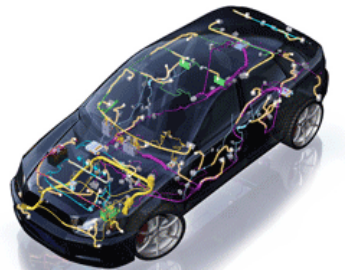
Open Innovation was formalized in Chesbrough's groundbreaking 2003 book *Open Innovation*, and describes the benefits employed by successful companies, such as Proctor & Gamble, in bringing new technologies into their products by using external sources. The value of OI is clear, but the implementation has many challenges – often preventing companies from fully realizing the power of this concept. BIC has invested significant time in making Open Innovation work in practice, and has demonstrated the power of this approach with several major firms.

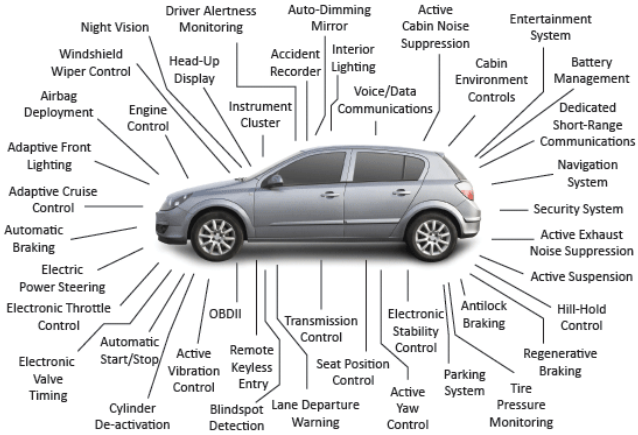
Technology Roadmapping is an important tool when a specific technology is identified. Efforts are made to characterize "technology readiness" or "technology insertion points" to intersect with the development of products. Taken alone, this is important information, but this analysis is likely to be shared among competitors as well – allowing companies to keep pace, but not exceed their competition.

The Road to Technology Convergence

Technology Convergence integrates the benefits of both Open Innovation (i.e. "I don't know what technologies are available") and Technology Roadmapping (i.e. "I don't know when technologies will be available"). A good historical example of Technology Convergence is the great leap in automobile development with the advent of inexpensive, reliable electronics, sensors, and data busses. Add to that the capabilities of internet/cellular connectivity, and an entirely new automotive paradigm was created – where the total is measurably greater than the sum of the parts.



Modern Automobiles – greater efficiency, higher comfort and convenience, lower manufacturing cost, greater manufacturing flexibility, and higher safety are all the result made possible by the convergence of electronics, communication, and mechanical systems..



Technology Convergence is more than a concept to BIC – it is something we put into practice for clients seeking new solutions to old problems, or new solutions to new problems. By integrating the best practices of Open Innovation and Technology Roadmapping, firms can achieve breakthrough products with excellent predictability. A more detailed presentation of BIC's approach will be presented in the next article – *Leveraging Seed Technologies.*

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