



Making the Transition from Healthcare Products to Healthcare Solutions

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Published April 8, 2015

The healthcare industry is undergoing a major transformation with radical implications for your products and your business. Multiple forces are exerting greater influence than ever before on healthcare costs, business models, and the emergence of ecosystems where both commercial and individual consumers demand choice and control over delivery. Data quickly is becoming the key to value-added services supported by expanded interoperability and interconnectivity frameworks. Value is shifting from the standalone device to an interconnected ecosystem comprising partners, participants and components. This ecosystem then connects into a larger system of systems.

Interoperability, collaboration, decision support and insight all are integral factors underpinning the transformation of product development in the healthcare industry. How are medical device companies preparing for this transformation? How will they ensure that they focus on the aspects of product development that provide the greatest value?

Current Product Development Challenges

Today, the rate and level of complexity at which product offerings are being commoditized is vastly different than just a few years ago. The value is moving from the device to an ecosystem of services and the various partners surrounding the device. With the explosion of mobile devices, patients and providers want access to their data anywhere, anytime. Payers also want access to this data to develop, mine and administer reimbursement models based on outcomes, not volume. Products are becoming integral parts of a system of systems of product-supplied value and user-supplied value. This approach creates new opportunities for companies to expand their product offerings to bridge the space between the two to create a larger, more integrated ecosystem.

Thus, the days of standalone devices operating outside an ecosystem have come to an end. Strong competition from new, smaller, nimbler players leveraging state-of-the-art technology to build 'good enough' products are eating away at revenue growth, margins and traditional competitive moats. Where it once took years to launch new products and solutions, new market entrants are launching new products in drastically less time, often measured in months—and at significantly lower costs.

We have all grown accustomed to using the Internet and connecting the various streams of our lives. We visit websites, run mobile applications and connect to the Internet in both our business and personal lives. We demand choice, empowerment and simplicity of use from the devices, services and applications we use. This “consumerization” is moving quickly and taking hold in next-generation medical devices as well. We see this at the consumer level with “patient engagement” products. The availability of wearable personal fitness devices and the steady trend of BYOD (bring your own device), interoperability and connectivity of simplified mobile devices into traditional healthcare delivery facilities such as the hospital is changing how the patient and care providers interact and communicate.

More than ever, the market is demanding complete solutions rather than products. In the past, product development efforts focused on the functionality and safety of an individual device designed for a specific intended use. As the intended use case needs changed, additional releases or a new product would be launched, with cycle times for such releases often measured in years.

Today’s products must address a broader set of needs and be able to adapt much faster to a particular market or user’s desire, or need. The device is now a component of a much larger system. These systems are moving and capturing enormous amounts of data; data that can be extremely useful and valuable across a wide array of business models—from providing remote device maintenance or driving better insight into disease state to improving patient care and efficacy.

To Remain Relevant, You Must Evolve Quickly

Emerging technologies in cloud computing, hardware, data analytics, mobile and social media won’t just address these challenges, they will create entire new value opportunities for your products and your customers. To effectively operate in this new landscape, your business model must shift to capture different revenue and profit streams. Existing mature products especially are susceptible to disruptive innovation when their customer base is trying to transform to more integrated solutions within their ecosystem.

One of the key issues to tackle early is system and data security. When trying to move a product or components of a product to include data collection and aggregation, a fundamental challenge is the rethinking of security, data integrity, system configuration, software upgrades and a raft of other considerations. Appropriately harnessing today’s powerful and disruptive technologies can mean the difference between being a leader or being relegated to a niche player by competition.

This transformation will be a journey for device manufacturers, and as with all journeys, a well-thought-out roadmap, key weigh points and a clear destination are required to be successful. Cost, time and resources all are important factors that must be considered.

The first step in this transformation should focus on getting beyond the firewall and gaining control of the data generated by your products. Harnessing the power of cloud technologies is critical in taking this first step.

Why You Need a (Better) Cloud Strategy

If you're like most companies today, you probably need a better cloud strategy. In doing so, development cost should not be the primary driver. Planning for this transformation requires an understanding and balancing of cost, time, resources—and most importantly, risk—to maximize the return on investment of a product.

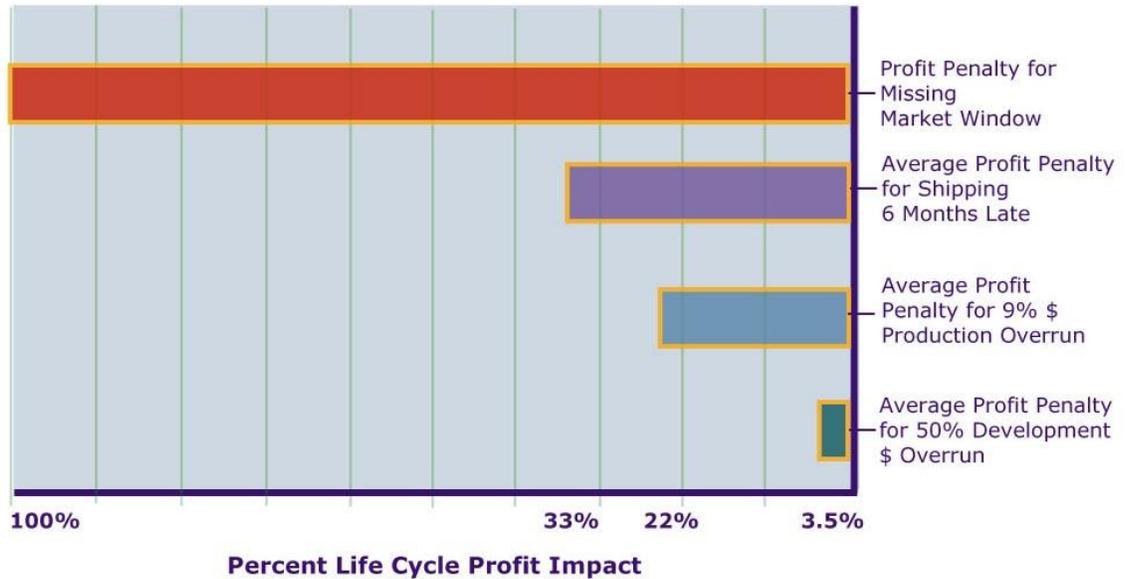
The business philosopher Peter F. Drucker identifies four kinds of risk:¹

- The risk one must accept;
- The risk one can afford to take;
- The risk one cannot afford to take; and
- The risk one cannot afford not to take.

The risk that one cannot afford to take is missing the market window. Virtually all product-based companies are jumping into cloud-based strategies. Some will win, some won't. However, the early mover advantage in this area could prove to be insurmountable. Launching (or re-launching) your product within the increasingly short market windows for cloud-based products and services will determine whether or not the market opportunity can be capitalized. Introducing a product or service after the market window has closed, or even just late in the market window, can be financially devastating. Today's disruptive technologies have narrowed the market launch window to such an extent that total loss of market share is a possibility. And, meeting market windows has become increasingly challenging.

According to a study by McKinsey & Company, in market-window-constrained opportunities, being late to market with product introduction incurs, by far, the greatest direct profit penalty across the product life cycle while development cost overruns have little overall impact, as shown in Figure 1.² (The lower three bars in Figure 1 come from McKinsey & Company, representing averages, while the top bar represents the disaster scenario.)

Figure 1. Profit Penalties for Four Kinds of Overrun



Development costs are small compared to market opportunity. Otherwise, there would be no return on investment for the product development. It is in just these situations where having a strong cloud strategy (or a better one)—and implementing the strategy on time—is crucial. While no executive wants to invest in a strategy that may shift in an unexpected direction, waiting for complete clarity in fast-moving technologies and markets is likely to be more detrimental than the risk of having to adjust mid-stream.

How can we say that cost doesn't matter? Because time matters more. It is all about time—time to market, time to revenue and time to profitability. Early to market boxes out competition and collects early adopter awards. So ask yourself two questions: "Do we have a Cloud strategy?" and even more important, "Is our Cloud strategy focused on accelerating revenue by improving time to market?"

Having the right cloud strategy allows you to accelerate the acquisition of technology to develop your product, and a platform to gain access and control to the data being generated. Your cloud strategy must take into account how you will focus on generating revenue streams while not missing the market launch window.

Cloud technology removes a great deal of the complexity:

- Resources are available instantly. No need to estimate and order. If you need more, it is immediately available. Less? It is gone.
- Day one is just day one. Cloud systems grow with demand, seamlessly. Optimistic marketing forecasts no longer require a warehouse of equipment and complex systems. You can start small and simple, and scale as necessary.
- The demands of consumerization and mobility are facilitated by the cloud.

To develop your product, you need to understand and master the technology. Technology to communicate, connect and interact with users, monitor progress, acquire and process data—then deliver results. This means that you have to develop the supporting technology, and that takes time.

Do you have it?

References

1. Drucker, Peter F. *Managing for Results, Economic Tasks and Risk-Taking Decisions*, New York: Harper & Row, Publishers, 1964, p. 206.
2. McKinsey & Company, (quoted in Bluetooth Protocol white paper), p. 10.

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Burlington, Mass. based Foliage, Inc. is a product development company that partners with companies to address the business and technical challenges inherent in developing complex software-intensive systems. The firm has more than 20 years of experience working with companies in the medical and life-sciences, aerospace and defense, and industrial equipment industries. Foliage is part of the Altran Group, a global high-tech engineering consulting firm that supports companies in the creation and development of new products and services. For more information, visit foliage.com or altran.com.