



Finding the Future First: New Frontiers in Consumer Healthcare

Larry Keeley, Cofounder and President, Dublin

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A Period of Rapid Change

Innovation can be brutally hard, and the leaders of organizations affected by innovation need to remain clear-headed and focus on what it will take to succeed. Innovation, moreover, is occurring at a very rapid pace. According to sociologists, the current period represents one of the four most intense times of change in the history of mankind. (The other three periods are not in anyone's living memory; one such period was the invention of the number system.) The pace of change is only going to increase, at least for the next 20 years.

Humans, however, are not designed to deal effectively with continuous change. Rather, they tend to do well with episodic or "step-function" changes. For example, in the music industry, humans handled the transition from record albums to compact discs well. However, very quickly thereafter, music transitioned to MP3 players and then to streaming services that provide all music for a low monthly fee. These changes occurred very quickly, forcing people to repeatedly buy their preferred music in different formats.

Creating Breakthrough Innovations by Integrating (Not Inventing)

Streaming music services have all the elements of a breakthrough innovation—technology at the core, a product or service that is a genuine pleasure to use, and a good business model that allows for profits at an affordable price to the consumer.

To create a breakthrough innovation, leaders must focus on investigating a small number of big ideas, figuring out what is likely to come next in a particular field. Most breakthrough innovations focus not on new ideas but rather integrating what already exists in a simple and elegant manner. Uber, for example, integrates many things to create a simple and convenient service. The customer knows exactly when the driver is going to show up and how much the ride is going to cost, and does not have to deal with handling any money, since the transaction is automatically processed behind the scenes. Like many innovations, the presumption is that the user has his own "supercomputer"—a smart phone. Uber relies

on modular, basic robust capabilities available to anyone. The company has only one patent, and it is for a feature that is relatively unimportant to customers (it alerts them when the assigned driver has completed his or her prior trip).

**"Generating 'bad-ass' breakthroughs
requires a focus on a small number of big
things. But most efforts to innovate today
are designed to generate a huge number
of smaller ideas. There's no ROI in that."**

—Larry Keeley

Another example of breakthrough innovation through integration of the known comes from Alibaba, which is the Chinese version of Amazon. Very little is new at Alibaba, with almost everything having been borrowed, adapted, and reinvented as an integrated service. Like at Amazon, Alibaba succeeds by trying things, seeing if they work, and then adapting accordingly. For example, the company's chairman noticed that sales tended to slump in mid-November every year. To address this issue, he decided to create a new holiday known as "singles day" that would fall on November 11 (11/11, with the "1s" being symbolic of being single). The idea was to mirror the American holiday of Valentine's Day, with a focus on those who are not married. The holiday "debuted" in 2014, generating \$6 billion in sales. Shortly thereafter, Alibaba had the most successful initial public offering in history. In 2015, Alibaba introduced the idea of getting an 11:11 a.m. or 11:11 p.m. time stamp on every gift purchased, a simple innovation that helped to generate \$14.3 billion in sales on singles day that year. In 2016, singles day generated \$17.8 billion in sales, including \$1.5 billion during the first seven minutes of the day.

“For the first time in history, innovation is giving up its secrets. Most innovation is less about primary invention of the new, and more about primary integration of the known.”

—Larry Keeley

10 Types of Innovation: A Deep Look at the Discipline of Innovation

Innovation is always difficult to execute. But it gets easier when myths are replaced with methods that can build competence in the field. Based on over \$6.8 million of research, *Ten Types of Innovation: The Discipline of Building Breakthroughs* serves as a guidebook to the discipline of innovation. Mr. Keeley shared the key messages and lessons from his book, including not only how to create successful innovations, but also how to develop competence by replacing myths and lore with logic and proven methods and tactics.

Mr. Keeley’s research identified 10 different types of innovation (depicted in **Exhibit 1**); successful innovators integrate five or more different types, including at least one from each of three categories. The first category (depicted by the four boxes to the left) focuses on concepts taught in business school: profit models (how the innovation will make money), networking (how to connect with others to create value), structure (how to align talent and assets), and processes (how to use the organization’s signature and/or superior methods). The second category (the two middle boxes) incorporates concepts taught in engineering schools, including product performance (how to deploy distinguishing features and functionality) and

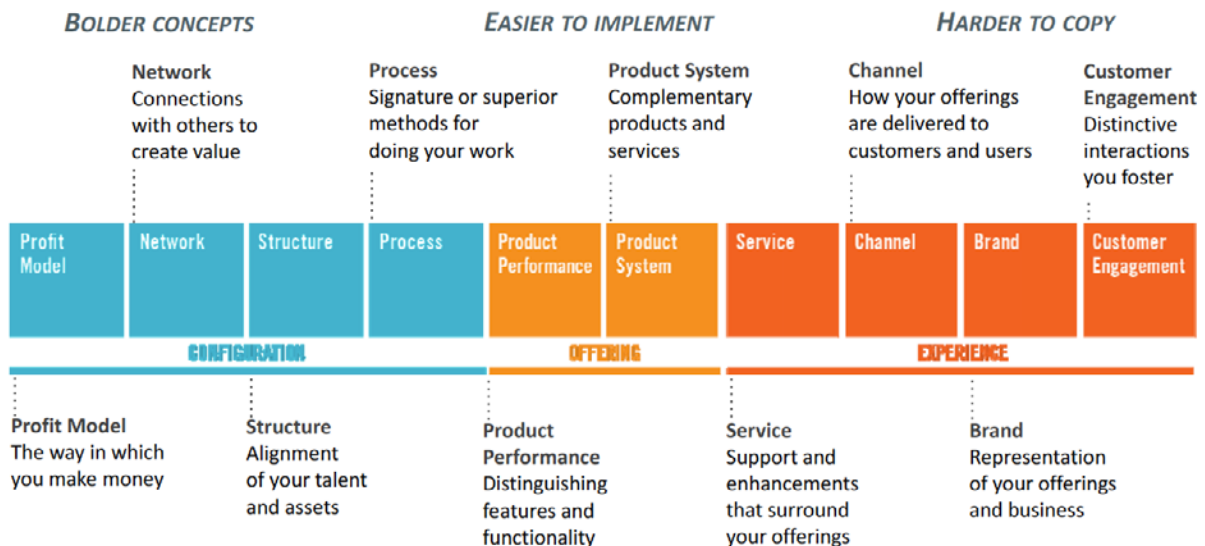
product systems (how to create complementary products and services). Finally, the third category (the four boxes to the right) has to do with concepts taught in design schools, such as service (how to support and enhance the value of one’s offerings), channels (how to deliver one’s offerings), brand (how to represent one’s business and offerings), and customer engagement (how to foster distinctive interactions).

How to Innovate: Through a Disciplined, Defined Approach Supported by the Board

Innovation does not occur by sticking people in a room and telling them to innovate, or by giving a rousing speech about the importance of innovation. Success does not come from generating long lists of ideas and voting on them. Rather, teams need to go through a series of defined steps that generate one or a few ideas that team members are willing to stake their careers on. Specific tactics can be used to develop and implement innovations. The process need not be that expensive, as technology has dramatically reduced the cost of market research and product development. As shown in **Exhibit 2** on the next page, the focus should be on faster, more iterative development through use of radical, open methods.

An organization’s success with innovation will be directly proportional to its willingness to invest in it and follow these steps. In healthcare, the typical success rate for an innovation (as defined by a positive return on invested capital) is 6.5 to 7 percent. Organizations willing to invest heavily in innovation, with metrics installed throughout the organization, incentives for leaders to sponsor growth initiatives, and high-potential staff being liberated to author such initiatives, can achieve 70 percent success rates (see **Exhibit 3**). This process will yield a small number of big ideas; those involved will love it and hence be willing to invest their time and energy.

Exhibit 1. Ten Types of Innovation



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For board members, the key is to develop an “innovation intent” that clarifies the organization’s commitment to innovation. Organizations that have such statements are 20 times more likely to succeed. An innovation intent is not a slogan or advertising campaign. It does not presume to know what

to do or how to do it. Instead, by looking outside the firm and beyond traditional competitors, it challenges the talent within.

A classic form of an innovation intent statement came from John F. Kennedy, when he called on the country to send an astronaut to the moon and return him or her safely. President Kennedy had not previously discussed this statement with

Exhibit 2. Lightweight Innovation in a Nutshell: Clouds, Crowds, Partners, & Prizes

Faster, more iterative development—with radically more open methods

<p>1. Catalyze & develop concepts</p> <p>Identify and select the specific, robust tactics you can use to build your concept</p>  <p>Use crowd funding to financially support and catalyze new idea development</p>	<p>2. Discoveries & prototypes</p> <p>Crowd source fast, cheap answers to focused market research questions</p>  <p>Quickly prototype and test physical objects using 3D printing</p>	<p>3. Solve tough problems</p> <p>Drive sophisticated pattern recognition from a distributed expert network</p>  <p>Use open challenges and prizes to solve intractable or tough challenges</p>	<p>4. Initial build & pilot test</p> <p>Use open networks to both accelerate and lower the cost of custom code</p>  <p>Rethink where and how to pilot products</p>	<p>5. Scale, expand & roll out</p> <p>Leverage cloud architectures to radically lower the cost of digital innovation</p>  <p>Co-construct with consumers to expand current offerings and find future ones</p>
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Exhibit 3. Differing Degrees of Intervention

What you achieve is a function of what you are willing to install...

<p>Best</p> <ul style="list-style-type: none"> • Metrics throughout the firm • Incentives for leaders to sponsor growth initiatives • High potential young people to author growth initiatives 	<p>Hit rate ≈ 70%+ 14x</p>
<p>Better</p> <ul style="list-style-type: none"> • Deep innovation “themes” • Best in class platforms • Lightweight innovation: clouds crowds, partners & prizes • Clear sense of ecosystems shifts 	<p>Hit rate ≈ 50%+ 10x</p>
<p>Good</p> <ul style="list-style-type: none"> • Signature tradecraft • Diagnostics • Center of excellence • Measurable “innovation intent” 	<p>Hit rate < 5%</p> <p>Hit rate ≈ 35%+ 7x</p>

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anyone at NASA. Those involved initially expressed serious concerns, not at the idea of sending someone to the moon, but rather at the idea of getting him or her home safely, as no one had ever contemplated the technology required to do so. John Noseworthy, the CEO of Mayo Clinic, recently issued a similar innovation challenge to those in his organization. Noting that it took Mayo Clinic 136 years to reach the size and scale to treat 20 million patients a year, he set the goal of serving 200 million patients each year by 2020, while simultaneously cutting operating costs by \$2 billion and not building any new hospitals. To succeed, Mayo has identified eight growth businesses as areas of focus, including in-home monitoring of the health of 40 million customers through sensors placed in the home. Mayo expects that patients will pay for the service through a low monthly fee, much like they pay their cable or phone bill today.

Where to Focus: Big, Bold Ideas That Leverage Platforms

Organizations rarely are bold enough when thinking about innovation. Yet the most successful innovations tend to be bold and always make use of five or more of the 10 types of innovation. For example, Henry Ford developed a car that replaced the horse as a mode of transportation. Using eight types of innovation, Ford developed a vehicle that sold for roughly the same price as owning and operating a horse (approximately \$5,000 in today's dollars). This innovation made Ford Motor Company the biggest, most prestigious company in the world.

Not long after Ford introduced the Model T, Buick used all 10 types of innovation to create a higher-end, "sexy" car that sold for the equivalent of \$34,000 in today's dollars. People stood in line to see the car even if they could not afford it. More recently, Tesla came along and used seven types of innovation to introduce a brand new type of vehicle that challenges many industry orthodoxies. In essence, owning a Tesla has become a status symbol, with those who do becoming a part of the "cool kid's club."

The best way to create this type of innovation is through platforms that cut across companies and markets. The most



valuable companies in the world have created such consumer and/or business-to-business platforms, which have generated amplified returns. These include Netflix, Google, Amazon, YouTube, and others. For example, Amazon recently created Amazon Prime, a breakthrough business model that uses six types of innovation and fosters loyalty by making people feel they are part of a cool kid's club. Amazon loses money on the service as a standalone business, but each new Prime customer generates \$78 in profit elsewhere in the company. Those who join spend 2.4 times more on Amazon than they did before joining. When Amazon raised the price of Prime from \$79 to \$99 a year, virtually no one dropped out of the club. Rather, they bought more products to justify the increased cost.

Applications to Healthcare

A blizzard of revolutionary products and services are being introduced in the healthcare arena that make use of many, if not all, of the 10 types of innovation. Some of these have come from traditional healthcare organizations while others come from non-traditional competitors like IBM, Apple, and Walgreens. For example, IBM's Watson makes use of seven types of innovation to bring cognitive computing to the field of medicine. Last year, Watson actually passed the medical board exams. GE and Epic are also using forms of cognitive computing to bring innovations to the healthcare field. Like CVS, Walgreens now serves and competes with healthcare systems. Humana, Apple, and Kaiser are well-known organizations that have used five or more types of innovation to bring bold, innovative products to the healthcare market. At the same time, lesser-known organizations are doing the same thing to revolutionize fields such as eye care, behavior change, and physician payment models. For example, using six types of innovation, Aravind has reinvented eye care in India, performing laser surgery profitably for \$10.



The Future: Integrated Ecosystems

The natural evolution of all businesses, including healthcare, is toward integrated ecosystems that can fundamentally change cost structures while dramatically improving outcomes. These ecosystems create new value equations. Several healthcare organizations are at the forefront of creating such ecosystems. Using six types of innovation, Joslin Diabetes Center is focusing on encouraging lasting behavioral change through cultural adaptations. For its part, MD Anderson is working as an ecosystem to solve cancer as a complex problem. While one- and two-dimensional innovations help to advance the practice of medicine, true breakthroughs are much more ambitious—they use elegant integration to create ecosystems that cut across areas. Most also integrate

the emerging fields of software and analytics and many focus on specific conditions. As shown in **Exhibit 4**, the key is to harness something from every layer that builds on organizational strengths while simultaneously addressing something that matters in the local community.

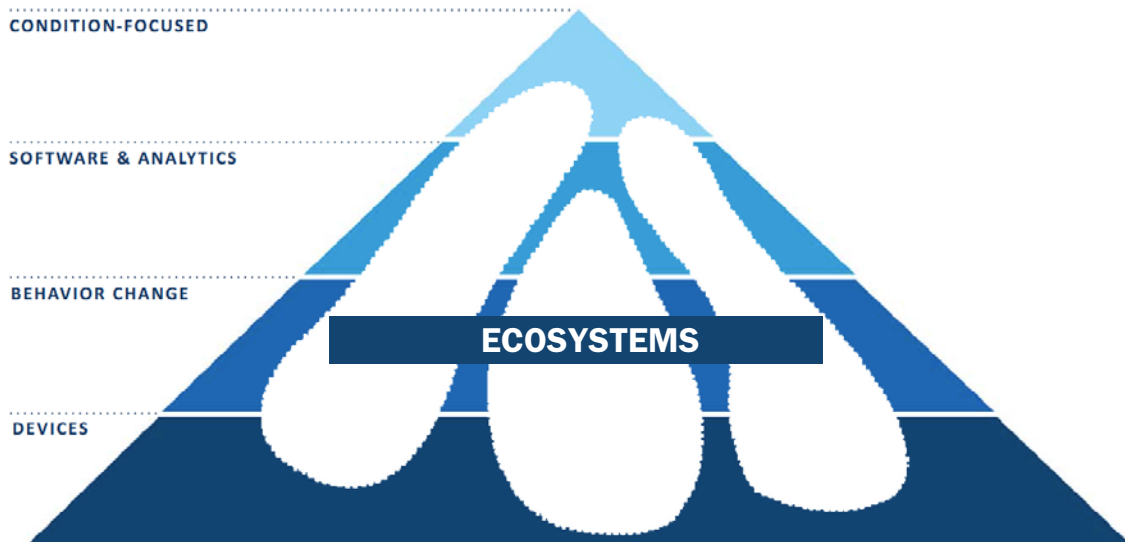
Key Takeaways

Healthcare is in the midst of an explosion of start-ups that is rapidly leading to a period of “platform warfare” where shake-outs will be inevitable. The winners will be those that address the most costly and complex conditions, going beyond simple devices to create profitable business models and amazing customer experiences through ecosystems that elegantly integrate and orchestrate the actions of hundreds of others.

Exhibit 4. Emergent Healthcare Ecosystems

EMERGENT HEALTHCARE ECOSYSTEMS

True breakthroughs are more ambitious: elegant integration creates ecosystems



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