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four paths to business model innovation

The secret to success lies in who makes what decisions when and why. *by Karan Girotra and Serguei Netessine*

Business model innovation is a wonderful thing. At its simplest, it demands neither new technologies nor the creation of brand-new markets: It's about delivering *existing* products that are produced by *existing* technologies to *existing* markets. And because it often involves changes invisible to the outside world, it can bring advantages that are hard to copy.

The challenge is defining what business model innovation actually entails. Without a framework for identifying opportunities, it is hard to be systematic about the process, which explains why it is generally done on an ad hoc basis. As a result, many companies miss out on inexpensive ways to improve their profitability and productivity.

In the following pages we present a framework to help managers take business model innovation to the level of a reliable and improvable discipline. Drawing on the idea that any business model is essentially a set of key decisions that collectively determine how a business earns its revenue, incurs its costs, and manages its risks, we view innovations to the model as changes to those decisions: *what* your offerings will be, *when* decisions are made, *who* makes them, and *why*. Successful changes along these dimensions improve the company's combination of revenue, costs, and risks.



WHAT Mix of Products or Services Should You Offer?

Uncertain demand is a challenge all businesses face and is in most cases their major source of risk. One way to reduce that risk is to make changes to your company's mix of products or services. In finance, if you have two portfolios offering a 20% return, you choose the less risky one, because it will create more value over time. The same is true with product portfolios.

Companies looking to recalibrate their product or service mix have essentially three options:

Focus narrowly. In October 2010 *Bloomberg Businessweek* ran a cover story with the sensationalist title "What Amazon Fears Most." The article profiled Quidsi, a relatively small New Jersey-based internet start-up cofounded by Marc Lore (a former student of ours) and best known for its main venture, the online retailer Diapers.com.

Diapers would appear to be a terrible product to sell on the internet. They are bulky and expensive to ship, and they have low margins because *everyone*—from convenience stores to Costco—sells them. But diapers have one thing going for them: Demand is highly predictable—birthrates are stable, and infants pee and poop constantly over an extended period of time. Also, product variety is limited, because there

are only three or four major diaper manufacturers, and diapers come in just a few sizes. Given that every newly acquired customer will use the product repeatedly for two years or more, the company can count on a steady revenue stream with little or no risk for a long time to come.

Focused business models are most effective when they appeal to distinct market segments with clearly differentiated needs. So if your business currently serves multiple segments, it may be best to subdivide into focused units rather than try to apply one model. Amazon, which bought both Quidsi and the online shoe and apparel retailer Zappos, allows its focused acquisitions considerable autonomy in serving their segments.

The main drawback for a focused business is that it must rely on a single product, service, or customer segment—and it may omit key customer needs. People buy both bread *and* butter.

Search for commonalities across products.

The success of Volkswagen owes much to a strategy whereby its cars share components. Although the strategy does not protect VW from general demand swings, it reduces demand variability for individual components, because shared components make it easy for VW to switch production at its plants from one model to another whenever the demand for car models shifts.

Commonalities aren't just shared components among different products. They may also be the capabilities needed to serve various product, customer, and market segments. Consequently, companies can add to their mix products or services that reflect new applications of their capabilities. For instance, in the late 1990s Amazon expanded from books into music, video, and games—all of which required the same logistics capabilities that books did. This allowed the company to cover the risk of failing to acquire enough share in any one of these categories with a potentially superior share in another.

Commonality can, however, carry significant costs if components must be engineered for a wide range of makes and models. What's more, the strategy requires that the component-sharing products not all experience their demand highs and lows simultaneously.

Create a hedged portfolio. Just as financial institutions try to create portfolios of investments that will hedge one another's risks, companies can select an assortment of products or markets to reduce the overall riskiness of the business model. Chile's LAN

Idea in Brief

THE PROBLEM

Business model innovation is typically an ad hoc process, lacking any framework for exploring opportunities. As a result, many companies miss out on inexpensive ways to radically improve their profitability and productivity.

THE SOLUTION

Drawing on the idea that a business model reflects a set of decisions, the authors frame innovation in terms of deciding what products or services to offer, when to make decisions, who should make them, and why the decision makers choose as they do.

AN EXAMPLE

Traditional call centers hire a staff to supply services as needed from a place of work, incurring significant up-front costs and risks. LiveOps created a new model by revising the order of decisions: It employs agents as calls come in by routing the calls to home-based freelancers who have signaled their availability.

Airlines takes such an approach: Unlike most major U.S. carriers, which derive less than 5% of their revenue from cargo, LAN uses the same wide-body planes, flying international routes, to transport both passengers and cargo.

Because almost all travel from the Americas to Europe is on overnight flights, passenger-only airlines keep their planes on the ground for long periods. LAN uses the downtime to carry cargo: A plane to Santiago that has picked up cargo in Europe can deliver it to other Chilean cities before returning to Santiago for its next overnight flight.

This approach reduces the risks associated with LAN's capacity decisions. Airlines make such decisions infrequently—by ordering new airplanes—and they are hard to reverse, leaving the companies vulnerable to periods of over- or underutilized capacity, with harsh effects on revenue. Hedging passengers with cargo mitigates this risk because their respective demand curves rarely rise or fall in concert. Moreover, carrying cargo allows the airline to fly profitably with fewer passengers, so it can afford to serve destinations that other airlines avoid.

Clearly, the approach works mainly for product and market combinations in which demand fluctuations are negatively correlated. For example, a manufacturer of ski apparel could hedge sales in North America with sales in South America—where the seasons are opposite. Overall demand stays fairly constant.

We have identified three strategies that, depending on the circumstances, can improve a business model by changing the timing of decisions.

Postpone the decision. In many industries companies make firm decisions about prices well before they actually sell anything. This, of course, often exposes them to risk. It's risky to price airplane seats early, for instance, because demand on any given route is highly contingent on economic and other conditions and can vary by the time of day, the day of the week, or the week of the month.

American Airlines solved this problem in the 1980s by using the booking system known as SABRE (for semi-automated business research environment), which makes it relatively easy to alter prices quickly by factoring in new information. The ability to price dynamically changed the airline industry forever. On any given flight, the price that passengers have actually paid to fly—even within the same seating class—can vary tremendously. Recently Uber, a company that matches customers who need rides with vehicles for hire, borrowed the same toolbox: In high-demand periods, the company implements “surge pricing,” whereby prices for rides go up, reducing demand while increasing supply.

Price quotes can be delayed at the individual level. The casino and hospitality company Caesars Entertainment uses a sophisticated database compiled

Amazon's Path

Founded in 1994 with the U.S. book market in mind, Amazon has adopted many of the strategies in our framework over the years.

1996**PASS THE DECISION RISK TO THE PARTY THAT CAN BEST MANAGE THE CONSEQUENCES**

Cash-strapped, the company gets distributors and publishers to carry slow-moving inventory, rather than stocking the books itself.

1997**INTEGRATE THE INCENTIVES**

Partners can't keep up with Amazon's growth and quick shipping promise, so the company reverses course and builds its own warehouses.

1998**SEARCH FOR COMMONALITIES ACROSS PRODUCTS**

Success with books leads to expansion into music, video, and games—where the company's logistics competencies can be applied.

WHEN Should You Make Your Key Decisions?

Decisions must often be made before you have enough information to make them with confidence.

by its Total Rewards loyalty program. When a repeat customer calls to make a reservation, the agent asks for his Total Rewards number, which links to detailed information about the customer's gambling habits (including average bet size) and hence the profit he is likely to bring the casino. Depending on what the agent sees, the customer may hear anything from "Sorry, all our rooms are booked" to "You're in luck! We can offer you a complimentary stay in our Presidential Suite!"

Change the order of your decisions. Some companies don't have the option of changing the time frame within which they operate, but they *can* shuffle the order in which decisions are made in order to delay investment commitments until pertinent information is known.

Most product development, for example, begins with proposing a solution or a technology for a customer need. If, after initial investments, the solution proves to be a dud, then it's back to the drawing board. But an increasing number of companies, including the open-innovation pioneers InnoCentive and Hypios, have figured out that if they switch that sequence to *performance first, investment after*, they can shift much of the risk of R&D onto others.

These companies offer clients ("seekers") a secure website on which to present R&D problems to a global freelance community of qualified engineers, product designers, and scientists ("solvers"). The companies help seekers define their problems—which might range from the chemical synthesis of a specific molecule to designing the look and feel of a new product—with enough specificity to interest an appropriately skilled subset of solvers. Seekers offer monetary rewards for the right solutions (sometimes more than one is selected), and solvers compete to develop the best solutions and win the rewards.

A similar change in sequence explains the success of one company in the call center industry: LiveOps. Traditional centers make up-front investments in facilities and hard infrastructure (primarily communications) before they sign a single client or take their first call. They must also decide how many agents to hire, at what levels of skill and expertise, and provide training. Next they must sign up clients whose needs match the capabilities they have assembled. Finally, they must develop daily and weekly staffing plans to ensure that enough agents with the right skills will be available to handle calls.

LiveOps, in contrast, employs agents as the calls come in. Its agents work independently from home

and signal LiveOps when they are ready to take calls. They are paid according to the duration of a call and—because calls are automatically recorded and scored—their skill at meeting callers' needs. Intelligent software routes callers to the most qualified agents available according to the nature of the call, so capacity and staffing are constantly adjusted *in real time* to meet actual demand.

This approach has its limits. Training on-demand employees in advance is difficult, and because they assume the risk of being idle and making no money, the business model depends on having an ample supply of people for whom downtime has a relatively low cost.

Split up the key decisions. The lean start-up movement is taking the corporate innovation and start-up worlds by storm (see "Why the Lean Start-Up Changes Everything," HBR May 2013). At the heart of the movement is a new approach for entrepreneurs who are making decisions about their businesses. In the past, starting a risky new venture involved putting together a detailed business plan that would cover all essential pieces of the business model and then executing on the plan. All the key decisions were made at once and up front.

The lean start-up approach divides up the key decisions. A venture starts with relatively imprecise and limited hypotheses about where an opportunity may lie. Multiple stages of information gathering and "pivoting" follow, as the business model is revised to arrive at the final, validated version. Typically, the founders radically change their hypotheses as the venture unfolds.

In the start-up world, this approach is today the rule rather than the exception. BBureau, a mobile beauty and wellness service that was born in our classroom (one of us is an investor and board member), is a case in point. Rather than commit up front to one target market and a fixed portfolio of services, BBureau ran a number of small experiments on many different markets to identify the combinations of customers and services that would be most lucrative for its pop-up delivery model, effectively splitting the venture-design decision into a number of smaller ones.

After numerous rounds of experimentation and refinement, the team converged on a business model that included offering wellness services (such as massages) at boutique hotels and frequently repeated beauty services (such as nail treatments) at office locations. Those combinations kept the

company's delivery costs low while ensuring a high customer willingness to pay.

This approach depends on finding decisions that can be divided up. In some cases the decision process is indivisible. (You can't price a little bit now and a little bit later.) In other cases it can be divided up only at some additional cost, and risk-return calculations should be performed.

WHO Are the Best Decision Makers?

Many companies find that they can radically improve decision making in the value chain simply by changing the people who make the calls. Companies can:

Appoint a better-informed decision maker.

The whole employee empowerment movement is based on giving decision rights to the most informed person or organization. Google's engineers, for example, have extraordinary freedom to decide what development projects the company should pursue, because Google believes they are better informed about technologies and tastes than the company's executives are.

The best-informed people aren't always in the company. More than 25 years ago, Walmart transferred some decision rights about stocking its store shelves to Procter & Gamble, because it saw that a supplier had the right combination of information and incentives to keep Walmart well stocked with products by optimizing delivery and production schedules. This has become a standard arrangement with the company's large suppliers.

More recently, we've seen decisions being made by algorithms. In the restaurant business, for example, servers are often scheduled for shifts they would rather not work and not scheduled for those they want. Worse, the least-productive servers are frequently put on the most-profitable shifts.

To get around this problem, the Boston-based restaurant chain Not Your Average Joe's uses an analytic tool called Muse, which was developed by Objective Logistics, a start-up in Cambridge, Massachusetts (in which one of us is both an adviser and an investor). Muse tracks servers' performance over time according to sales per customer (as measured by check size) and customer satisfaction (as measured by tips or directly). This has enabled the chain to develop a

productivity-based ranking system whereby servers can schedule themselves, choosing both their shifts and the tables they serve.

Although the advantages of making decisions using better information are obvious, empowering employees, suppliers, or customers and collecting extensive data often entail costs and difficulties. Walmart made a considerable up-front investment in the largest private satellite network in the world in order to enable seamless data flow, and the company had to negotiate and coordinate complicated new relationships with trading partners.

Pass the decision risk to the party that can best manage the consequences. The key to Amazon's early prosperity was its drop-shipping model, which allowed it to offer more than a million books while stocking only 2,000 or so of the most popular titles. For the rest, Amazon forwarded orders to book wholesalers or publishers, who then often shipped the products directly to customers using Amazon packaging.

In this innovative model, Amazon's network of wholesalers and publishers independently managed their inventories. They, not Amazon, bore the risk of carrying books without knowing the likely demand for them. But because the risk was widely distributed, all were able to manage their own bits of it with relative ease.

Shifting the decision risk to the party best able to bear it is often an attractive strategy when no decision maker clearly has superior information. In its early years, Amazon was too small and too cash constrained to stock every single book in its catalog, whereas bigger wholesalers were well positioned to match supply with demand from Amazon and thousands of other small retailers. But for this strategy to work, the replacement decision maker's incentives must be aligned with yours. Amazon's model would

Amazon's Path, CONTINUED

2001

PASS THE DECISION RISK TO THE PARTY THAT CAN BEST MANAGE THE CONSEQUENCES

Amazon hosts the websites of Toys"R"Us, Borders, and Target and performs most site development, order fulfillment, and customer service.

2005

CHANGE THE REVENUE STREAM

Per-item shipping costs deter many customers, so Amazon offers Amazon Prime: Customers buy a shipping subscription rather than paying for individual shipments. This also encourages impulse purchases.

POSTPONE THE DECISION

The acquisition of BookSurge (on-demand book publishing) and CreateSpace (self-publishing of books, CDs, DVDs, and video) allows Amazon to delay publication decisions until customer tastes are known.

have failed if the publishers had been motivated to poach its customers.

Select the decision maker with the most to gain. In many business models, key decisions are made by those with less to gain than others in the chain. A company's customers, for example, often feel that they gain less when they buy a company's products than the company does. That was a problem facing Netafim, the Israeli market leader in drip irrigation technology.

energy management for their customers, implementing whatever efficiencies they think necessary and bearing all the up-front costs. They then share the savings that result from these improvements with the customers. Like Netafim, they bear additional risk quite easily, because they understand the technology and can predict its performance. And as resistance to adoption declines, their revenues scale up.


There are catches. A company can safely take on more risk only if the relevant technology is very reliable. And behavioral issues may arise: The savings from energy-efficient equipment will shrink if customers decide that they can economically leave their lights on longer.

WHY Do Key Decision Makers Choose as They Do?

When decision makers collaborate to create value, they must also be able to pursue their private objectives without damaging the value chain. Many business model innovations, therefore, come from adjusting decision makers' motivations. There are three ways of doing this:

Change the revenue stream. Traditionally, when the U.S. Department of Defense bought aircraft, it would agree to a time-and-materials contract, under which suppliers charged for labor and materials consumed (on a cost-plus basis) in the course of each maintenance event—just as a mechanic does for car repairs. Unfortunately, this model doesn't provide suppliers with customer-friendly incentives; from their point of view, the more problems the client has, the better. It has been estimated that for every dollar the government spent to buy a new airplane, it spent seven more over the plane's life.

Until, that is, the DoD gave suppliers a reason to care about engine reliability. In 2003, facing pressure to cut costs and improve performance, the department adopted what's called performance-based contracting, which changed the revenue model for contractors. They would be paid for the amount of time the aircraft was actually in service, with the DoD specifying, for example, 95% availability as its threshold. As a result, the longer a jet performed without needing to be taken out of service for maintenance or repair, the more the contractor earned.



Drip irrigation is the watering method of choice for small farmers in hot countries. Netafim developed a technology that fine-tunes water application according to the soil's water content, salinity, and fertilization and to meteorological data. The company demonstrated to farmers that its system could increase crop yields by 300% to 500%, making it a potentially lucrative investment.

Initially, though, the technology was a hard sell. Small farmers were reluctant to engage with and pay for anything so sophisticated. They did not trust the company and felt that they were shouldering a lot of risk in adopting its approach. Netafim solved the problem by offering them a free integrated package that included system design and installation, all required hardware, and periodic maintenance. Payback came from a share of each farmer's increased crop yields. Thus Netafim took on all the risks of the decision, and farmers simply said yes or no to a strong chance of earning more money with no downside.

Netafim could do this because it realized that it had the most to gain from the adoption of its technology. Given its expertise and access to sophisticated forecasting systems, the risks were a lot smaller for the company than for the individual farmers. Moreover, it could spread the risk: If the system failed at one farm, Netafim could make up for it elsewhere. As farmers achieved greater success, word would spread; Netafim would increase its sales and realize economies of scale.

Something similar is at work with energy-efficiency companies, many of which essentially take on

When decision makers collaborate to create value, they must also be able to pursue their private objectives.

Changing the revenue stream to align the interests of a decision's stakeholders works best when performance can be fully and unambiguously defined. It would be difficult to set reasonable performance standards and develop appropriate metrics for, say, a new airplane that relied on advanced technologies and materials, because the unknowns involved would simply be too numerous.

Synchronize the time horizons. Traditionally, sourcing relied on competitive-bidding rituals that ensured low prices and moderate but acceptable quality. The chosen provider won the business for a relatively short period of time, after which the bidding process was repeated.

But as overseas sourcing increased, this model developed flaws. Faraway suppliers cut corners on quality control and materials reliability. Worse, revelations of abusive labor practices, product diversion, and the counterfeiting of goods emerged. And because most sourcing transactions were one-off deals, shoddy providers faced few consequences—until, of course, multinationals felt the corrosive impact of repeated performance problems on their brands.

Enter Li & Fung, a Hong Kong-based company that has changed the world of outsourcing by creating a new business model based on combining the flexibility of competitive sourcing with the confidence of long-term relationships. It selects, verifies, and approves suppliers and allocates their business among its manufacturing clients, and it manages each client's relationship with each supplier—including performance, compliance, and crafting incentives for suppliers to invest in people, facilities, and materials. Given the potential for an enduring relationship with Li & Fung, suppliers are motivated to create long-term value for manufacturing partners.

But companies like Li & Fung are few and far between. If your organization sources in sectors or regions where you lack recourse to a trusted

intermediary, you will need to manage such relationships directly, which can be difficult.

Integrate the incentives. Companies without a trusted intermediary can develop contractual arrangements and management systems (such as the famous balanced scorecard) to focus independent agents on maximizing an agreed-upon outcome. This is essentially what one of the most promising reforms to U.S. health care is about: Under the bundled payments system, all parties involved in a patient's treatment agree to measure performance according to the outcome for the patient (see "How to Design a Bundled Payment Around Value," on hbr.org).

Sometimes such contractual arrangements can be so complex that it's easier to simply integrate operations. Quad/Graphics, a printing company with approximately 25,000 employees and annual revenue of more than \$4 billion, has created its own health care system, complete with doctors and hospitals, lowering health care costs for its employees by some 30% in the process. Patient outcomes have improved as well: For example, the rate of cesarean-section births among women in the Quad health care system is only 12%, compared with 26% nationally.

Achieving full integration is not trivial; many organizations rightly hesitate to take on directly performing activities that are outside their core competencies. Thus we tend to regard it as a last resort, to be applied only when other approaches won't suffice.

USING A framework like ours, any experienced manager can find ways to create a better business model. Companies can also use the framework to make their innovation processes more systematic and open, with business model reinvention becoming a continual, inclusive process rather than a series of isolated, internally focused events. When they do, they find that the resulting capabilities offer a sustainable competitive advantage. ♥

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Amazon's Path, CONTINUED

2006

APPOINT A BETTER-INFORMED DECISION MAKER

Amazon takes over retailers' A-to-Z fulfillment function—a logical extension of its third-party services.

CREATE A HEDGED PORTFOLIO

Amazon expands into computing services including storage, simple queue service (SQS), cloud computing, and electronic data systems.

2008-2010

FOCUS NARROWLY

Amazon realizes efficiencies by acquiring focused verticals: Diapers.com (baby consumables) and Zappos (shoes). Acquired retailers operate independently to maintain these efficiencies.

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