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## How to Identify New Business Models

# How to Identify New Business Models

Systematically exploring alternative approaches to value creation can allow companies to find new opportunities for growth.

BY JOSEPH V. SINFIELD, EDWARD CALDER, BERNARD MCCONNELL AND STEVE COLSON

ORGANIZATIONS TRADITIONALLY pursue growth via one or more of three broad paths:

- They invest heavily in product development so they can produce new and better offerings.
- They develop deep consumer insights in order to offer new and better ways to satisfy customers' needs.
- They concentrate on strategy formulation to grow by acquisition or by moving into new or adjacent markets.

Each of these paths usually involves devoting considerable time and resources to developing a corresponding organizational competency. For example, to build product capability, companies typically invest in in-house research and development departments and/or technology-sourcing expertise. Establishing customer insight capability often requires creating in-house market research units and implementing robust feedback links between the sales force and the developers of product or service lines. And creating a strategy capability generally involves setting up dedicated corporate strategy units and merger and acquisition groups or engaging consultants.

Recently, a fourth path has emerged, one that we might label “business model experimentation”: the pursuit of growth through the methodical examination of alternative business models. At its heart, business model experimentation is a means to explore alternative value creation approaches quickly, inexpensively and, to the extent possible, through “thought experiments.” The process sheds new light on potential competitors and lowers the risk of taking the wrong or a lesser-potential road — all for an initial investment that is typically quite small relative to what can be gained.

Research conducted in the last 10 years has established a link between business model innovation and value creation.<sup>1</sup> To our minds, this research points to the need for organizations to build a *competency* in business model innovation — that is, in the process of exploring possible business model alternatives that can be pursued to commercialize any given idea prior to going out into the market and expend-

**?** **THE LEADING QUESTION**  
How can your company explore business model innovation?

## FINDINGS

- ▶ Create a template that allows you to examine alternative answers to key business model questions.
- ▶ Use the template to systematically consider alternative approaches to value creation.
- ▶ Be clear upfront about what you don't want to change about the way you do business.

By systematically examining alternative business models, the tool manufacturer Kennametal was able to develop new service-based offerings.

**ABOUT THE RESEARCH**

The approach to business model experimentation presented in this article stems from over four years of field work carried out with more than 20 companies — including Kennametal, Infineum, Johnson & Johnson, P&G and Medtronic — in an array of industries, including consumer packaged goods, chemicals, medical devices, pharmaceuticals and financial services. This work entailed in-depth, interview-based primary market research with existing and potential customers; extensive working team idea formulation and prioritization activities, and in-market assumption testing and business piloting. Our purpose was to understand the range of alternatives available for companies to optimize the value captured through commercialization of their innovative offerings. The specific company examples presented in this article highlight two distinct approaches to employing the proposed business model innovation process. These two cases represent starting points at opposite ends of the value chain — one driven by an understanding of unsatisfied customer needs, the other driven by the pursuit of applications for a set of technical solutions. This demonstrates the broad applicability of the approach.

ing resources. However, few organizations have successfully conceived and executed a business model different from their current one, fewer still have done it more than once and only a handful have put in place a methodical approach to business model innovation.

Our goal is to demonstrate how an organization’s ability to methodically and routinely examine multiple business model alternatives — in other words, by treating the business model as a variable and not a constant — can serve as a critical enabler of growth, allowing executives to anticipate, adjust to and capitalize on new technologies or customer insights. The approach we describe is based on research over the last two decades into mechanisms of reliable, methodical business model generation as well as our own work helping companies<sup>2</sup> build the capability to create repeatable growth through business model experimentation. (See “About the Research.”)

**What Is a Business Model?**

At a conceptual level, a business model includes all aspects of a company’s approach to developing a profitable offering and delivering it to its target customers. A review of the relevant literature reveals that more than 40 different components — such as target customer, type of offering and pricing approach — have been included in various definitions of business models put forward over the past few decades, with much of the variation stemming from differences between the industries and circumstances in which a definition has been applied.<sup>3</sup>

For our purposes, we will explore the concept of a business model by addressing several core questions that the majority of business model researchers deal within their models:

- Who is the target customer?
- What need is met for the customer?
- What offering will we provide to address that need?
- How does the customer gain access to that offering?
- What role will our business play in providing the offering?
- How will our business earn a profit?

In any working business model, the answers to these questions are fixed. But what if they weren’t? What if you considered each of them as a variable? What new opportunities could you capture that

you can’t address with your current business model? The answers to these questions form the essence of business model experimentation.

**Starting the Process**

The first step in the business model exploration process is to create a template to examine possible alternative answers to the questions above. (See “A Business Model Development Template.”) The questions that help to shape a business model represent a series of decisions, each of which has a set of possible outcomes. Our template lays out various possible outcomes within the business model structure. Selecting one possibility from each category and then linking them together forms one potential new way to proceed. And, of course, selecting different combinations creates other possible outcomes.

To see how this works, consider how an airline might use the template to generate alternative business models. Currently, airlines serve a range of customers with the same basic model. For example, regardless of whether the customer is going on vacation with her family, traveling on business or responding to an emergency, airlines use the standard pay-per-seat model with which we are all familiar. Minor levels of customization exist — for example, larger seats and priority boarding for those who pay for them — but the core model is the same for all.

To explore business model innovation, an airline could start by picking a specific customer group and then beginning to explore potential options other than its current model. Answers to the question “How does the customer gain access to the offering?” (which is essentially the same as asking “How will we sell it?”) could include “Through travel agents” or “Through online websites” or “Through self-service kiosks” or “As part of partnerships.” As for where on the value chain the airline might operate, it could be the service provider, but it might also be a wholesaler selling off excess capacity to reduce unprofitable flights. Various profit models would likely start with the traditional pay-per-seat but might expand to include subscription models. The offering itself might be a premium seat, a low-cost seat or maybe even fractional ownership of a plane or chartered use of an aircraft. We experimented with “What we sell” for an airline to show how changing just one variable can result in a substantially different business. (See “Generating

New Business Models by Changing One Variable.”)

Working out what elements should be in a business model — and then examining different combinations of them — can be a rapid and robust way to explore the possibilities of business model innovation. This process has the potential, for instance, to uncover combinations that are common in other industries but not in your own. In fact, deliberately applying analogies from other industries (for example, what if a company became the NetJets of agricultural equipment or the Dell of automobiles?) can be highly fruitful. It may also highlight links that create a “systemic” level of competitive advantage in the business concept — much as Apple did with the agreements it made with record labels to distribute songs through its iTunes online music site. Alternatively, the business model innovation process can uncover opportunities to more comprehensively fulfill a customer need than any current competitors do.

A quick run-through of simple combinations of high-level strategic questions can produce a wide range of potential business models. But each of the questions could be examined in more detail in a systematic way to yield deeper insight into some specific aspect of the business. For example, rather than brainstorming various alternatives for the “What we sell” category, a company could break the category down into its constituent parts and ask a series of additional questions such as:

- Should we sell a product or a service?
- Should it be standard or customizable?
- Will its benefits be tangible or intangible?
- Will we sell a generic or branded offering?
- Should it be a durable or a consumable?

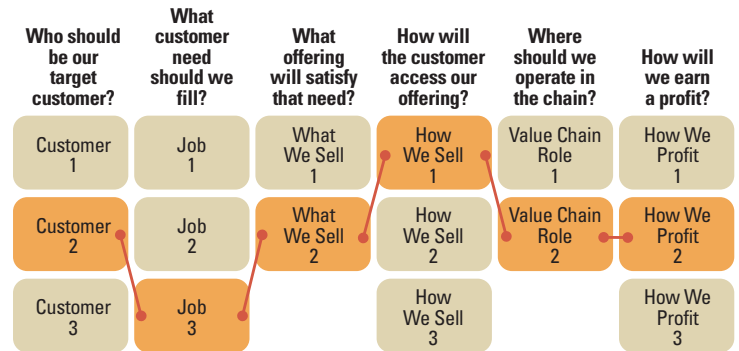
We have often found it useful to visualize such choices as switches, or levers, which can be flipped one way or the other. (See “Exploring Offering Options in More Depth,” p. 88.) You could engage in a similar exercise to systematically explore potential variations in the way a customer might gain access to an offering or the way a customer might pay for it.

## Narrowing the Choices

Despite what one might think, these choices are not infinite. In working through possible combinations of variables, it becomes clear that some are inherently interrelated. For example, if the offering is a durable good like a car, it is unlikely that the con-

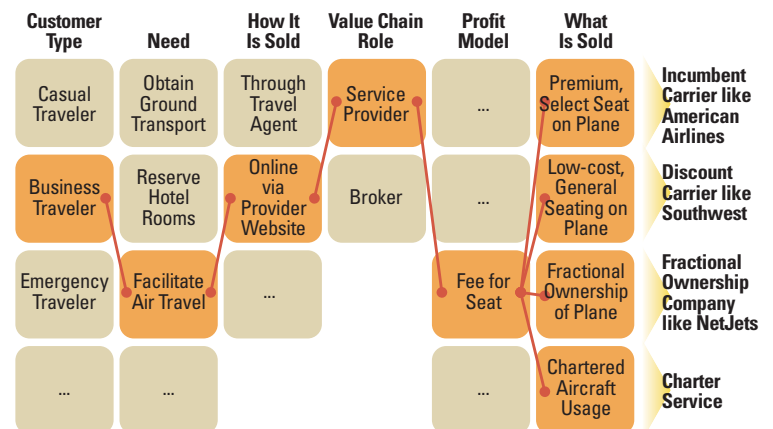
## A BUSINESS MODEL DEVELOPMENT TEMPLATE

The questions that help to shape a business model represent a series of decisions, each of which has a set of possible outcomes. This template lays out various possible outcomes within the business model structure.



## GENERATING NEW BUSINESS MODELS BY CHANGING ONE VARIABLE

Changing even just one variable — in this case, “What is sold” for an airline business — can result in a substantially different business model.



sumer will need to purchase new ones frequently. Such realizations dramatically reduce the number of options that must be explored.

What’s more, there are likely only a handful of ways that any of these questions can be practically addressed while remaining consistent with the mission of the organization and its “goals and bounds”<sup>4</sup> — that is, what the organization is willing, and not willing, to do. Some answers form a more natural path to making the business more efficient or better able to deliver the existing value proposition. Some will lead to models that are more feasible to implement than others, given the company’s existing competencies and its ability to develop new ones.

In fact, it is possible to use this approach to delib-

erately align the exploration of alternative business models with wider corporate goals by “locking in” one or more variables as you go about your experimentation. To see how this might work, let’s take a look at two cases in more depth. In the first, a tool manufacturer explores opportunities to enter new lines of business spurred by market trends; in the second, a maker of petroleum additives seeks to identify new ways to employ its core competencies.

### Exploring New Customer Needs

Kennametal is a tool manufacturer based in Latrobe, Pennsylvania. Faced with an evolving manufacturing environment, a changing customer base and increasing global competition, Kennametal embarked on a business model experimentation initiative to diversify its revenue stream by identifying two to three new businesses in adjacent markets that would leverage core assets. A small team kicked off the initiative with a research effort focused on developing a more comprehensive understanding of potential customers’ frustrations, desires and challenges, in order to populate both the target customer and possible needs categories of the business model template. The research involved a combination of qualitative, quantitative and observational activities.<sup>5</sup>

Since the goal was to create diversified revenue streams, Kennametal chose to prioritize needs based on the classic measures of their profit potential: importance to the customer, the customer’s level of dissatisfaction with the offerings currently on the market and the degree to which the need had not already been targeted by other internal efforts.

The company then identified three high-potential combinations. For example, one was small “job shops” that had unmet training needs. The next step was to focus on developing the offering and determine how the company would deliver it.

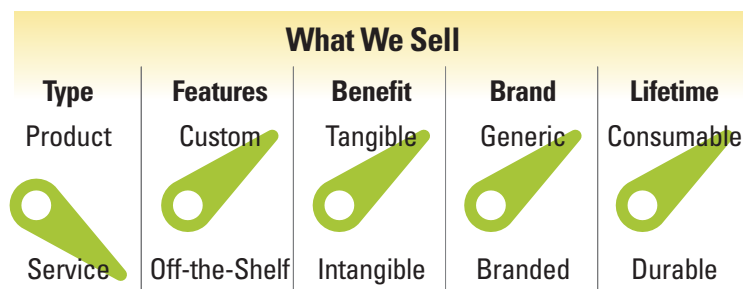
For each possibility, the team methodically reviewed a list of levers for the remaining business model components — for example, “What we sell” and “How we profit” — and articulated multiple options for each lever. By examining more than 30 different levers in multiple combinations, they systematically generated an expansive list of possible business model options. Conceptualizing the different components of a business model as levers forced the team to consider new combinations they likely would have otherwise overlooked. For example, Kennametal has traditionally been a product-centered company that provides service as part of product sales. However, by looking at its service capabilities and examining the options for some “How we profit” levers, the company was able to consider a number of interesting fee-for-service business models. In doing so, Kennametal was essentially exploring ways to monetize the latent wealth of knowledge contained in the organization’s experience, people and knowledge-management systems.

With more than 30 levers, there were literally thousands of possible permutations and, therefore, the last step in the process was to identify the most attractive ones. The team focused on the possibilities that would generate the greatest customer satisfaction, would be the hardest for competitors to copy and were the most feasible to pilot. This process ensured not only that a wide range of options were considered but that the opportunities selected were well matched to customers’ needs, were competitively robust and leveraged existing resources appropriately.

The initiative required a minimal amount of time from a small, multifunctional team over an eight-week period — truly a low-risk way to home in on new growth options. In this way, Kennametal used the business model innovation process to move beyond incremental improvements in its businesses and generate three new opportunities to pursue in adjacent markets. In particular, two of these initiatives formed the foundation of new service-based offerings for Kennametal.

### EXPLORING OFFERING OPTIONS IN MORE DEPTH

Rather than just brainstorming various alternatives for the “What we sell” question that is part of a business model, a company could more systematically examine its options by asking a series of additional questions, such as whether what it sells is a product or service, whether that product or service is standard or customizable, etc.





## Using Core Competencies to Create New Businesses at Infineum

Infineum, an enterprise based in Oxfordshire, United Kingdom, with about 1,600 employees that conducts business in more than 70 countries, is another organization that has used the business model experimentation process. Infineum is one of the leading formulators, manufacturers and marketers of petroleum additives for the fuel and lubricant industry, and its customers are oil and fuel marketers. Infineum's goal in the business model experimentation process was to leverage its product technology and know-how and create a list of profitable new opportunities that fit with its core competencies.

Since Infineum wished to hold to a strong interpersonal sales model in any initiative it pursued, we locked down the "How we sell" switch and did not consider alternative sales methods. In addition, the company's goals and boundaries were built into the process by dividing entries under each category into three groups: "desirable," "discussable" and "unthinkable." (See "Incorporating Goals and Boundaries into Business Model Experimentation.")

Given those requirements, within each category each option was considered according to its overall merits. Infineum identified a number of new opportunities, two of which we will now describe in more detail. Both went from inception to commercialization within 18 months, a time frame that is unusual in an industry as asset-intensive as petrochemicals.

**Rethinking what we sell.** The first example involves additives for the lubrication of high-precision instruments like cameras and robotics. Identifying a commercialization opportunity for this market presented two special challenges to Infineum's existing business model. First, the amount of lubricant required per instrument is extremely small, so selling the product by the ton, as Infineum usually did, was not appropriate. Second, Infineum was working closely with one particular original equipment manufacturer, which wanted to treat the offerings as a trade secret, whereas Infineum would have normally sought patent protection for its intellectual property.

To address these challenges, a new business model was devised having two key new elements in the "What we sell" and "How we profit" categories. The first element was to charge a regular fee (typically, twice

## INCORPORATING GOALS AND BOUNDARIES INTO BUSINESS MODEL EXPERIMENTATION

In this excerpt from its business model generation template, Infineum built its goals and boundaries into the business model experimentation process by dividing entries into three groups: "desirable," "discussable" and "unthinkable."

	Customer Type and Position	Need	What Is Sold	Value Chain Role	Profit Model
Desirable	B2B – Two Steps or More From End User	Enhance Customer Process Efficiency	Product Solution	Value Chain Element Integrator	Product Sales
		Improve Customer Product Performance			
Discussable	B2B – Close to End User	Facilitate Customer Product Design	IP Licensing/ Sale	Upstream Supplier	Royalties
			Integrated Product/ Service Solution		Value Chain Element Partner
Unthinkable (out of bounds)	Business-to-Consumer	Manufacture End Product	Pure Service	Refiner	Brokering
	End User		Financial Solution		

yearly) for work resulting in meeting R&D targets. This fee was charged on the basis of value to the OEM in meeting technical challenges, rather than bearing any relationship to the cost of the R&D, and as such can be considered as the direct monetization of the value of the R&D work. The second element involved licensing the necessary know-how to the OEM and charging royalties linked to the OEM's use of that know-how, based on the OEM's unit sales. Revenue from these elements, together with the sales price of additives sold to the OEM, created three distinct income streams, which led to a viable business model for Infineum that was also acceptable to the OEM.

**Changing places.** The second example shows what can happen when you look at different roles your company might play in the industry value chain. Infineum normally sold diesel and heavy-fuel-oil additives to refineries, with a value proposition based on a combination of high levels of technical performance, lowering costs and a responsive supply chain to deal with fuel-specific requirements. In the new business opportunity, ad-

ditives are mixed into the fuel after it has left the refinery, typically when it is on board a ship in the port of delivery. Here, the main emphasis is on high levels of responsiveness and very short lead times to minimize the turnaround time of vessels in port.

In this business model, Infineum was operating further along the supply chain than usual, with a very different value proposition. In this case, in order to gain access to the distribution channel, Infineum partnered with a transportation service provider familiar with operating further along the supply chain in this specific market. By holding inventory of product close to the partner's supply points, Infineum was able to meet the challenge of very short lead times.

Neither of these opportunities could have been captured and commercialized within Infineum's normal business models. They involved the development of not only new value propositions but new ways to turn a profit and new ways to position the company within the industry value chain. So beyond improving business results by opening new avenues to revenue, these initiatives stretched the organization's ability to think beyond its traditional competencies.

### The Bottom Line

By engaging in business model experimentation with a small, focused team, companies can accomplish three important goals. First, they can understand the implications of different business models and make clearer, better informed decisions about where and how they want to compete. Second, they can identify the business models that will create the most value for customers and themselves and appropriately leverage their existing resources. And third, they can use business model innovation to extract the maximum potential from other growth-focused activities — their technical R&D, customer insight and strategic development efforts. Given the high potential of business model innovation and how few companies have mastered it, we see business model experimentation as a potent source of competitive advantage.

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### REFERENCES

1. See T.W. Malone, P.Weill, R.K. Lai, V.T. D'Ursio, G. Herman, T.G. Apel and S.L. Woerner, "Do Some Business Models Perform Better Than Others?" Working paper 4615-06, MIT Sloan School of Management, (Cambridge, Massachusetts, 2006) May 16; S.M. Shafer, H.J. Smith and J.C. Linder, "The Power of Business Models," Business Horizons 48, no. 3, (2005): 199-207; E. Giesen, S.J. Berman, R. Bell and A. Blitz, "Three Ways to Successfully Innovate Your Business Model," Strategy & Leadership 35, no. 6 (2007): 27-33; and M.W. Johnson, C.M. Christensen and H. Kagermann, "Reinventing Your Business Model," Harvard Business Review, 86, no. 12 December 2008: 51-59. In a study of 1,000 of the largest U.S. firms, for example, Malone et al. called attention to the link and mapped out a comprehensive classification system that can be employed both to categorize and to develop business models. Shafer et al. described the benefits General Motors gained by employing business model innovation in the development of OnStar, and contrasted this success story with the narrow and less innovative approach employed to define the business model for eToys in the late 1990s. Giesen et al. examined 35 financially successful enterprises and outlined three distinct paths to business model innovation — industry, revenue and enterprise model innovation — that were at the core of their success. Further, Johnson et al. explored the stories of P&G, Tata, Hilti and Dow Corning to emphasize the financial and long-term competitive differentiation benefits that companies can achieve through business model innovation.
2. Johnson et al., "Reinventing Your Business Model."
3. Shafer et al., "The Power of Business Models"; and M. Morris, M. Schindehutte and J. Allen, "The Entrepreneur's Business Model: Toward a Unified Perspective," Journal of Business Research 58, no. 6 (June 2005): 726-735.
4. J.V. Sinfield and S.D. Anthony, "Constraining Innovation: How Developing and Continually Refining Your Organization's Goals and Bounds Can Help Guide Growth," Strategy & Innovation 4, no. 6 (November-December 2006): 1, 6-9.
5. For more on conducting research into discovering such needs see, for example, C.M. Christensen and M.E. Raynor, "The Innovator's Solution: Creating and Sustaining Successful Growth" (Cambridge, Massachusetts: Harvard Business Press, 2003); and S.D. Anthony and J.V. Sinfield, "Product for Hire: Master the Innovation Life Cycle With a Jobs-to-be-done Perspective of Markets," Marketing Management 16, no. 2 (March-April, 2007): 18-24.

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