

# Business Models: A Discovery Driven Approach

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The business model concept offers strategists a fresh way to consider their options in uncertain, fast-moving and unpredictable environments. In contrast to conventional assumptions, recognizing that more new business models are both feasible and actionable than ever before is creating unprecedented opportunities for today's organizations. However, unlike conventional strategies that emphasize analysis, strategies that aim to discover and exploit new models must engage in significant experimentation and learning — a 'discovery driven,' rather than analytical approach.

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## Introduction: the appeal of the business model construct

The Business Model has evolved as a popular term, and as a focal concept for strategy. Key drivers have been the emergence of the commercial Internet, enabling ubiquitous communications and increasingly cheap ways to convey vastly more rich amounts of information, and making it possible for businesses to do things they simply never could before. 'Conventional rules tie us down?' the dot-com entrepreneurs seemed to trumpet, 'no way — we have a superior business model!' Of course, as became rather evident rather quickly, old-fashioned ideas like having profits — or failing profits, even revenues - continue to matter. Nonetheless, the idea that a company can create a competitive advantage by doing something differently — adopting a new business model - has remained with us. Some observers have gone so far as to suggest that a business model offers a new way of analyzing companies that is superior to traditional concepts such as position within an industry.<sup>1</sup> It is worth, therefore, reflecting a bit on where the concept might take us and what we might expect from business models in the future.

The concept of ‘the business model’ is appealing because it suggests a change to the way that strategies are conceived, created and executed against. In highly uncertain, complex and fast-moving environments, strategies are as much about insight, rapid experimentation and evolutionary learning as they are about the traditional skills of planning and rock-ribbed execution. Modeling, therefore, is a useful approach to figuring out a strategy, as it suggests experimentation, prototyping and a job that is never quite finished.

Business model analysis also gives us a sense of firms in action. But this dynamic perspective is not central to two ideas about the genesis of competitive advantage that are well-accepted in strategy: the industry positioning view or the so-called resource-based or dynamic capability view. The positioning school has long proposed that what firms need to do to succeed is to find a truly differentiated and defensible position within an industry and execute relentlessly against that position. The capability school argues instead that advantage stems from having difficult-to-copy resources that are often built up over long periods of time. The dilemma is that neither of these perspectives give management much latitude for action. Having selected a position in an industry, it is hard to pluck a firm out and move it to some other position; similarly, after a firm has spent time and effort assembling a compelling resource endowment, order of magnitude shifts are quite difficult. But making business model decisions *does* fall into the realm of managerial choice, and is therefore exceptionally useful to inform managerial decision-making.

For instance, when Mark Hurd joined Hewlett Packard, he took the helm of a firm whose positional advantages (particularly in the computer hardware business) were under significant threat. Michael Porter’s five-forces of industry analysis was increasingly negative for HP: it had few barriers to entry, substitutes for its products abounded, buyers and suppliers retained significant power and industry rivalry was brutal. Similarly, the value of its resources, relative to its competition, was proving insufficiently valuable to drive sustained differentiation. Hurd initiated a series of initiatives to move the company’s core business toward a different business model than it had pursued up to that point. In the consumer-facing PC business, for example, HP matched competitors such as Dell on operational efficiency, but added a strong retail presence to the personal computer business. On the corporate side, he shifted HP toward more of an integrated solutions and services model than it had previously adopted, culminating most recently in its decision to acquire the consulting and outsourcing firm EDS to fill out its capabilities to support client corporations’ needs more comprehensively. These were not positional moves (although they had positional consequences), nor were they strictly speaking resource moves (although, likewise, they had resource accumulation and dispersion consequences): rather, they were decisions intended to align the firm around a new set of business models.

For academics or executives trying to make sense of why some firms do better than others, and how firms might themselves benefit from such understanding, the business model concept offers four ideas that are either new, or that have not figured substantively in considerations of strategy formulation historically.

- First, it promotes an outside-in, rather than an inside-out, focus. For some time, managers have been advised to get to know their ‘core competences’ - those activities at which their firms excel - and find market opportunities to deploy them. The dilemma is that such analyses are often carried out with an internal focus. Focusing on business models shifts re-invigorates a view of firms as continually engaged with - and adapting to - changing customer values. Clearly, business models that don’t create value for customers don’t create value for the firms that seek to serve those customers either;
- Second, business models often cannot be fully anticipated in advance. Rather, they must be learned over time, which emphasizes the centrality of experimentation in the discovery and development of new business models;
- Third is a new appreciation of the dynamism of competitive advantages. Conventionally, the Holy Grail in strategy has been the creation of a ‘sustainable’ competitive advantage. In more and more categories, however, we see firms competing to achieve what we might think of as

a ‘temporary’ advantage, which they exploit until competition has caught up or markets have changed, at which point, the hunt is on for a new advantage. The business model construct encourages conversations which might help us discern possible early warnings of model weakness and prompt the search for new ones. It wasn’t until former CEO Paul Allaire of Xerox identified the company’s decline as a consequence of an *‘unsustainable business model’* (coupled with a near-death experience) that the firm, with new CEO Anne Mulcahy at the helm, went on to discover the new document management and information management businesses that have supplemented its plain-paper copying franchise;

- Finally, as business models themselves evolve and mature, adopting the notion suggests a developing understanding that strategy itself is quite frequently discovery driven rather than planning oriented.

### **Bringing the customer in**

The ideas of corporate distinctive or core competences had a huge impact on managerial thinking. Largely in response to the preceding notion of ‘strategic business units’, proponents of this concept for strategy argued that what really leads to competitive advantage are hard-to copy organizational capabilities that cannot be imitated or bought on the open market. In academia, the idea went mainstream in what is often called the ‘resource-based’ view.<sup>2</sup> While the focus on firms’ capabilities led to a good many insights, it didn’t much help managers who were trying to determine which resources to invest in, how much to put toward them, and how particular resources would contribute to a future competitive position.

In academia, there were many attempts to tie resources to competitive advantages or superior profitability (called ‘rents’). Unfortunately, few have yielded much in the way of answers about the direct connection between what a resource combination allowed a firm to do and how that then allowed it to create value for a customer. Indeed, even though a central proposition of what makes a given resource combination interesting is that it is both rare and valuable,<sup>3</sup> looking at value to a customer has too often failed to take the customers’ perspective on its utility into account. The business model construct offers some intriguing opportunities to capture better how a given set of resources translates into something a customer is willing to pay for.

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*two core components constitute a business model ... the basic ‘unit of business’, which is what customers pay for [and] ‘key metrics’ of process or operational advantages for delivering superior performance.*

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Which brings us to two core components of what constitutes a business model. The first is the basic ‘unit of business’, which is the building block of any strategy, because it refers to what customers pay for. The second are process or operational advantages, which yield performance benefits when more adroit deployment of resources leads a firm to enjoy superior efficiency or effectiveness on the key variables that influence its profitability. You can think of these process advantages as being captured in a set of ‘key metrics’ that allow a firm to deliver superior performance.

### **The unit of business**

A unit of business is quite literally the items on the invoice: the products, services, guarantees or other things the firm offers and for which its customers pay. This is clearly a supremely important choice - without it the firm doesn’t have a business, much less a business model. But, surprisingly, our literature has spent little time on what should guide an executive or entrepreneur in making this choice.

The reason the term ‘unit of business’ is useful for analyzing business models is that it does not call forth pre-existing conceptions of what businesses sell. Terms such as ‘product’ ‘offer’ ‘good’ and even ‘service’ really don’t capture the wild array of new offerings that companies today are finding ways of being paid for. For instance, revenue can be earned from guarantees (as in insurance), or

the dispensation of know-how (as in consulting or training), or via models where the ‘thing’ being sold is actually users’ attention, which is paid for by advertisers or some other third party. It can be earned by supplementing a basic product with other features — such as style, ease of use or convenience: consider how Cemex has altered the dynamics of supplying cement by offering delivery within a specified time ‘window’, thus essentially turning a product into a service.

Calling what you sell a ‘unit of business’ also suggests that this is a matter of managerial choice, which has a major impact on competitive strategy. Consider, for instance, firms such as Nokia or Apple - whose primary revenues come from selling hardware - facing off against firms such as Microsoft, AT&T or Verizon, whose primary revenues derive from software or services. The software and services firms are only too happy to subsidize hardware (as Microsoft does with its gaming systems and Verizon does with handsets) while the hardware firms are not all that reluctant to give away or discount the software components that make their devices work, or make them more attractive. Nokia, for example, in its ‘Comes With Music’ devices embeds the cost of the music in the cost of the hardware, so that the music appears to be ‘free’ to the consumer.

*new communication and computing developments [have] vastly expanded [what is] intellectually (maybe even economically) feasible ... the choice of unit of business is critical to strategy*

One of the effects of new developments in communication and computing technologies has been to vastly expand the units of business that are intellectually (and may even be economically) feasible, making the choice of unit of business critical to strategy. For instance, in a recent discussion, *Wired* magazine editor Chris Andersen observed that it is now quite feasible to base a business model on what is literally a ‘free’ unit of business by collecting revenues from parties other than those who use/benefit from what is ‘sold’. One of the interesting things about the concept of non-monetary exchanges is the revival of some traditional models through which people exchanged goods and services, such as bartering. Some examples of business models that incorporate some element of ‘free’ — the variety of which is also illustrated in [Figure 1](#) - include:

- **Advertising** (probably the best known of the free business models). In an advertising model, companies are paid for attracting users - even though the users don’t pay for what they receive - so that users may be exposed to advertising messages. The advertiser pays the company for access to its audience.

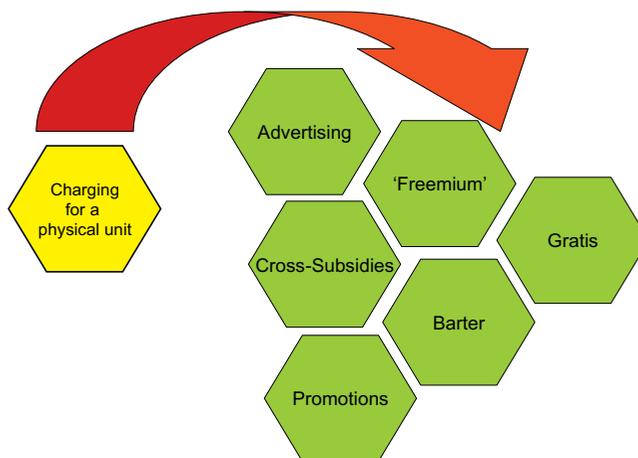


Figure 1. Greater variety in units of business made possible by the advent of ‘free’

- **Cross-subsidization.** In a cross-subsidization (or ‘bundling’) model, certain units of business are given away for free or at lower than market-rate price in the interest of making fat margins on another part of the business. A classic example along these lines is ink-jet printer manufacturers who ‘give away’ printers at relatively low prices, but make their margins on selling ink. Similarly, elevator manufacturers often accept low margins on new elevator installations in the expectation of revenues from on-going servicing contracts later on.
- **Promotion.** In this model, a low cost good (a stuffed toy, software or digital music) is given away to promote something that might be entirely different — a brand, membership in a community or attendance at a rock concert. McDonald’s famous exploitation of the promotional model — the ‘teeny beanie baby’ giveaway in which a hugely popular ‘free’ toy was included with its kids’ meals - drove so much business its way that pundits joked that McDonald’s really was a toy company masquerading as a food provider.
- **‘Freemium.’** In the Freemium model, a basic version of an offering is given away for free, with the hope of eventually persuading sufficient numbers of customers to pay for a more advanced version. This has become a popular approach for social networking sites such as LinkedIn, and for persuading people to buy more advanced versions of security software.
- **Barter,** in which a good is given away without cost to customers who provide in return something of value to the sponsoring organization. One example is Google providing free directory assistance to improve its voice recognition technology. In a more traditional example, pharmaceutical companies give drugs free to doctors and hospitals for clinical trial testing, who in turn provide them without cost to the patients enrolled in the trials. The ‘free’ good (the drug) is being ‘exchanged’ for information and for the option on an attractive future income stream should the drug gain regulatory approval.
- **Gratis.** In a gratis, or gift model, something of value is provided for free simply because those involved enjoy interacting or making a contribution: the rise of open source software and various forms of ‘wiki’ encyclopedias are good examples. However, such ‘exchanges’ can still be part of a profitable business model — sometimes because the free participation substitutes for some other activity that would have had cost implications. Thus when the accounting software firm Intuit provided a user forum allied with its ‘Quickbooks’ product, it found that the users could (and did) answer so many queries about how best to use the software that it could reduce its customer service operations staff - a direct result of users contributing their own time for free. Similarly, the LEGO Group has looked to its customers for design ideas and new products for years, and recently, even producers of products such as corn chips are encouraging customers to make videos, submit advertising ideas and propose new flavors and concepts — the customers’ reward is simply seeing their ideas incorporated in a final product. The rise of social networks is another example of how ‘free’ exchange creates value — users pay nothing to use networks such as Twitter, Facebook, My Space or LinkedIn (at least in the basic versions — see ‘freemiums’ above) yet the presence of other users is what attracts members (although monetizing such membership usually requires adopting one of the other ‘free’ models.)

The beautiful thing about comparing units of business to one another as part of a strategic analysis is that it doesn’t require an in-depth understanding of the resources or capabilities that underlie them. Instead, one can consider the transactions in which the firm engages in the marketplace, which are both less complex to understand and less ambiguous to interpret. Thus Anne Mulcahy recently pointed out to analysts that Xerox could be seen as a good bet because so much of its revenue was promised on an annuity (long-term contract) basis rather than a transaction basis. Her argument - that the long-term contracts model is more enduring than the transactional model — is a statement of competitive advantage that stems straight from business model analysis.

### Process advantages: key metrics

Having chosen a particular unit of business, a second set of choices available to executives concerns process steps, specifically, which sets of activities are employed to sell those units. We can detect the

operations of these processes through the assessment of ‘key metrics’ that help drive performance. The key metrics in a business reflect its architecture — those operational activities that influence the critical dimensions of performance for a firm. For instance, in airlines, one critical performance variable concerns how full the planes are when they take off, and the industry looks at measures of passenger yield to determine how effective a competitor is. Southwest Air, the pioneering low-cost carrier in the US, identified practices that would allow them to out-perform on this critical measure (such as using only one type of plane and pricing so that they flew full). Similarly, when Dell came up with its ‘build-to-order’ model for selling computers to businesses, it didn’t employ an innovative unit of business: the unit was still (for the most part) a computer. What it did was deploy radically different processes from its contemporary competitors, in which customers ordered (and paid for) the computer before Dell even built it. One could see the advantage Dell had created by comparing its operating metrics in its heyday against those of its conventional competitors. Its working capital was actually negative because the money came in before the computers went out the door: Dell made money on its work in progress. If an executive can come up with a breakthrough in the way that the business operates, this can represent as important a business model innovation as developing a whole new type of offering.

Again, this way of comparing firms’ resource deployments doesn’t require complex analysis of the resources themselves - instead one can examine the key metrics that are used to assess performance. Even if the unit of business isn’t revolutionary, (and Dell’s was not — a hundred years earlier, Sears & Roebuck pursued something along similar lines) a firm can create an advantage by delivering it in a new and unusual way.

Key metrics are almost always derived from the most critical constraint or rate-limiting step in a particular value chain, and are therefore extremely helpful in comparing the performance of firms struggling with similar constraints. Inventing a (new) way around an industry constraint can create a differentiated business model, and yield an advantage. Amazon.com, for instance, figured out how to overcome the most traditional retail constraint of all (limited floor space) by selling instead over the Internet from warehouses, and Wal-Mart has used its scope, scale and information innovations to wrest the maximum possible return from its available retail space, to the detriment of competitors who didn’t keep up.

Of course, nothing stands still in business, let alone the value of certain key metrics. Business model analysis can help us understand why some companies’ competitiveness declines, as well as why it was successful. With Dell, its competitors caught up over time on many of the numbers that had made it so successful, reducing if not eliminating its business model advantage. And worse (for Dell), tastes shifted, corporations began to buy differently and its established model proved impossible to align well with a slew of potential new high growth products, such as flat screen televisions. In the same way, the value to customers of dial-up access to the Internet was made irrelevant by the competing offering based on broadband, whereon the relevant assessment of competition was no longer to be found within the dial-up Internet Service Provider segment: comparing the ISP with the broadband business model then provided a more meaningful understanding of competitive advantage.

When an existing business model has been copied, made irrelevant by environmental events or is otherwise no longer germane to customers, new business models have the opportunity to flourish. It is difficult, however, to plan analytically for which new models will supplant old ones, since so many of the variables relevant to their success are unknown at the outset. This brings us to the next issue — the centrality of experimentation in discovering new models.

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*When existing business models are ... no longer germane, new [ones] flourish. [But] many variables relevant to success are unknown at the outset [so] experimentation is central*

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## The centrality of experimentation

Most business models are conceived within the boundaries of a particular set of constraints. As new technologies and other shifts relax constraints or impose different ones, the opportunities for new models (and the threats to existing ones) increase. Typically, new models emerge when a constraint is lifted, and old ones often come under pressure when one emerges. In traditional equilibrium oriented views of the strategy process, there is an assumption that there will be relatively little change in the constraints managers operate under. For instance, consider the traditional assumption about price and demand — raise price and demand drops; reduce it and demand increases. While this is undoubtedly true in many cases, in many others the relationships between price and demand are not nearly so constant. Consider how Moore's Law has upended traditional pricing assumptions in the computer business — prices for more advanced products are supposed to go up, not down, and yet the dynamics of that industry have turned this assumption on its head. A more dynamically oriented business model lens suggests that many of the constraints that will turn out to be competitively important aren't known at the time that critical resource allocation decisions need to be made. In many cases, it will take marketplace experimentation and time to discover the most effective models. For instance, firms in industries ranging from telecommunications to computer hardware and software and micro-processors are struggling to understand the implications of the emergence of 'netbooks' (small, cheap, low powered laptops designed primarily for web surfing or simple office duties). In some scenarios, netbooks become the much-anticipated convergence device that will replace laptops and smart phones: in others, they are simply complementary to established models. At this point no one knows.

The netbooks dilemma is similar to many situations in which experimentation, rather than analysis, is the strategists' tool of choice. For instance, when electricity replaced hydro-power as the main power source in factories, it became possible for machines to operate independently of each other, totally revolutionizing the way factories were designed and ushering in a wave of innovations, among them the mass production of goods. The emergence of new categories in regulated industries can yield unexpected outcomes. It is also hard to predict how certain choices regarding regulations will unfold. Despite evidence that at-home therapy could be effective, regulatory requirements promoting for-profit kidney dialysis were enacted in the United States, largely as a consequence of effective lobbying by the nascent industry that would benefit.<sup>4</sup> Changing social norms can also render certain models more attractive (witness the current fascination with all things green) or render some unattractive or even unacceptable (think of smoking). And of course, changes in financial constraints can empower or disable models: technologies of no interest when gasoline sells for \$2 per gallon can become rather attractive when prices double. Given uncertainty about how such forces might affect the future workings of a potential business model, it is more sensible to engage in experimentation and discovery than to try to assume the relevant information is all known.

### Experimentation, failure and learning: across as well as within firms

The dilemma is that, while it is usually quite possible to detect such trends and changes, it is difficult to know in advance how best to take advantage of them via business model innovation. Such uncertainty places a huge premium on experimentation. Indeed, it is well known in the literature on the management of technology that a major change in an underlying technology tends to spark an 'era of ferment' that only ends when key design decisions are made and a 'dominant' design emerges.<sup>5</sup> The history of such technological shifts suggests that most experiments with new technologies fail — but without such failures the eventual new 'victorious' design would not have had a chance. Something similar can be considered as occurring with business model breakthroughs — new business design concepts

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*new business design concepts produce massive experimentation, with no clear understanding at the outset of who the winners will be.*

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produce massive amounts of experimentation, without any clear understanding at the outset of who the ‘winners’ will be.

Consider a business model category that we take for granted today - advertising-supported Internet searches. Text-based searching has been with us for decades, used primarily by organizations (such as libraries and police departments) equipped with electronic databases. When the Internet began to expand the amount of information available on line, new entrants promised a more organized way for users to find what they were looking for. The business model most early entrants tried was to be paid for the search itself, assuming that was what customers valued. In an early example (circa 1995), Infoseek tried to get customers to subscribe \$9.95 per month for access to its search engines. Only later did players such as Yahoo! come up with the innovative idea of giving searches away for free in exchange for giving advertisers access to their visitors - and only later still did Google invent what is still regarded as the best algorithm for ranking web pages among the major search engines, creating a critical mass of searchers that would be attractive enough to advertisers to deliver the huge profits it enjoys today.

Without disparaging Google’s accomplishments in any way, its current success stems from and builds upon the many previous experimental efforts made by preceding companies. Figure 2 illustrates how the experimental process of discovering a viable business model for Internet searching unfolded over a considerable time. Note that the model shifted conceptually as technological possibilities expanded – from transaction to subscription based models, to ones supported by advertising. And note also how the advertising-supported model gives a first-mover advantage to a firm that is able to achieve critical mass, since it becomes more attractive to both searchers and thus advertisers.

A few points bear reinforcing:

- What often isn’t recognized is that business model experimentation takes place *across* as well as *within* firms;
- Further, that business model evolution is highly path-dependent – early experiments often shape the trajectory for models yet to come;
- Finally, it is nearly impossible to tell in advance which design will win.

Consider the current ‘new thing’ in the world of the Internet – the so-called Web 2.0 or ‘cloud’ applications, which propose that people will do their computing on remote servers, with the applications they use - and even their own data - residing somewhere other than on their personal computers. At the time of writing, hundreds of firms are busily experimenting with the possible business models such technologies enable, from small software-as-a-service shops to giants such as

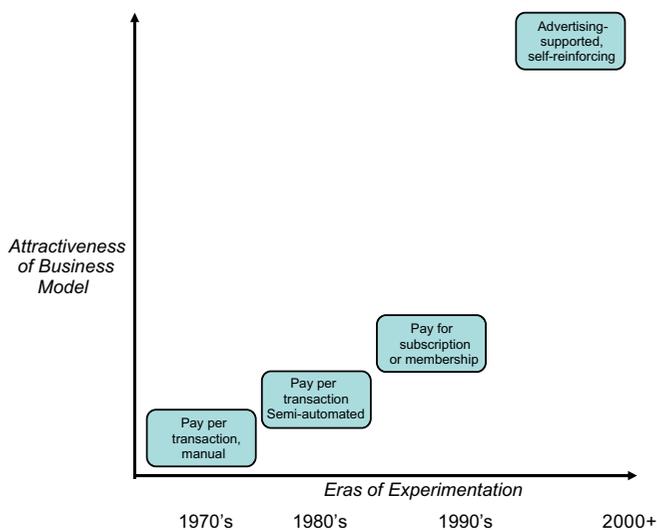


Figure 2. The Centrality of business model experimentation in searches

Microsoft. But what will they look like? - no one knows. Microsoft's executives, for instance, are currently assuming that individuals and firms will be willing to trade the current on-premises, licensed model for software use to one that facilitates usage on a subscription basis — an entirely different model to its traditional 'shrink-wrap package' software, and more a wider, more flexible 'individual' extension of its already established licensing model. (Of course, such a model is made more attractive by the fact that it would be virtually impossible to pirate software running on Microsoft's own servers, and sold only as a service.)

### Tools appropriate for experimentation

If business model evolution is highly path-dependent and unlikely to be determinable *a priori*, then would-be winners will have to be prepared to get engaged in the experimental process.

Google's success with its advertising supported search model was certainly partly due to its brilliant engineering, the development of a better algorithm for identifying high-potential search terms, and its ability to scale up quickly. But the company also benefitted from the fact that no truly great alternative solution was competing for its customers. The company's innovations in search are well known. What is less well known is that it also pioneered a major innovation in business models, with the advent of its 'adsense' offer. This program that sets fees paid for key words based on their popularity — which further reinforces Google's advantage, as it benefits advertising buyers to invest where the likely effectiveness of their messages can be measured and linked to what they pay. And also, of course, it enjoyed good timing: it didn't hurt Google that its major growth got going after the worst excesses of the dot.com bust had taught the sector many brutal (albeit useful) lessons. Now, Google's continued dominance in searching is far from guaranteed — a recent study found that 39% of all searches fail — some 4.7 out of every 12 searches conducted in a typical day.<sup>6</sup> Let someone come up with a better way to *find* rather than search, and a new competitive race might well be set off.

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*business model innovation demands experimentation which requires investment ... firms will need to [understand which] financial tools make sense in an experimental world.*

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If business model innovation demands experimentation, which in turn requires investment, then firms will need to become comfortable with financial tools that make sense in an experimental world. This implies that decisions will be based a lot less on such deterministic concepts as projected economic value added and net present value, and a lot more on investment ideas such as real options reasoning.<sup>7</sup> Indeed, business model experimentation can often be designed to honor such real-options concepts as keeping initial investments small until concepts are proven and only investing more substantially when there is greater evidence that an idea will work - but then being prepared to scale up with vigor. Amazon.com's approach to innovation in its business model to accommodate third party sellers is illustrative. It made a series of relatively small investments in experiments, cutting them off (thus avoiding downside losses) when they failed to generate hoped-for results, but continuing to preserve the potential to access a potentially lucrative upside. The company began by allowing third parties to offer goods in its 'z-shops' and through auctions, neither of which took off. Next, sellers were offered space on separate sections of Amazon's web page — but that didn't work either. Eventually, the retailer began featuring offers from third party sellers directly on the main pages where promising customers would land when they searched the site. That approach worked - and is today so successful that it accounts for roughly a third of Amazon's total revenue.<sup>8</sup> Only after investing in its 'real options' on the third-party business did Amazon make substantial investments in systems and processes to roll out the eventually-successful business model.

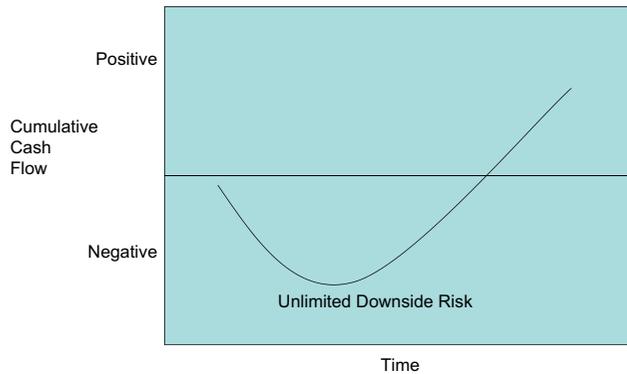


Figure 3. “Black Hole” investment strategies

Figures 3 and 4 illustrate the difference between the conventional and a real options oriented investment approach. Conventionally, those wishing to get resources to do something new in a corporation put together an elaborate pitch. This is honed, practiced and eventually presented - if the Powers that Be agree, the plan is approved. All the resources are allocated, on the implicit assumption that the plan will unfold, well, as planned. All too often, this approach entails negative cash flows in the near term against the promise of huge profits in the medium to long term. Thus (in Figure 3) the plan depicts a pattern of cumulative cash flow that is extremely negative over the short term (the ‘black hole’ strategy), on the hopeful assumption that eventually the business will pick up and things will turn positive in a massive way – experienced managers often deride this pattern as the ‘hockey stick’ approach.

In contrast Figure 4 shows an approach where many smaller investments are made with a deliberately limited downside, but which can still accumulate to significant positive returns over time. These ‘little hockey sticks’ are really options, in which a small investment is made today with the understanding that the company is earning its way into a new and promising area.

### Overlooking business model erosion

Just as experimentation is central to business model creation, a new set of skills involving the early detection of any erosion of their business model will be at a premium for company leaders. Business models embed the logic of the particular set of constraints operating on a business at a given point, so executives can easily miss the fact that a shift in constraints is likely also to alter the validity of their own models, or those of competitors. Successful incumbents may even entirely miss the erosion of their model’s ability to generate value until it is too late.

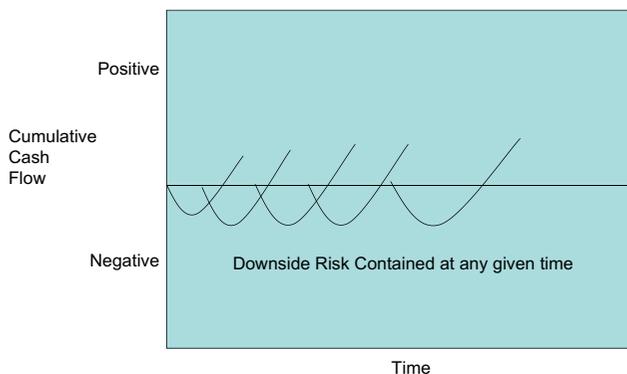


Figure 4. Options oriented investment strategies

## Why new models don't look attractive – or threatening!

I've argued above that brand-new business models are more like experiments than proven business ideas, so it's not surprising that incumbent firms often fail to respond effectively to the threats signaled by the advent of innovative new models. The work of Clayton Christensen shows why: new models are often designed for customers that an incumbent doesn't serve, at price points they would consider unattractive, and builds on resources that they don't have: from the perspective of an established firm, new models can look positively unattractive.<sup>9</sup>

The leadership challenge lies in getting firm decision makers to recognize the threats to the viability of their business models before it is too late, and then to mobilize their resources to address the concerns. An interesting example is Kodak, facing the business model threat of consumers' converting from film-based analog cameras to digital cameras. While there are many opinions about how Kodak went wrong, there is little doubt that not coping with the business model challenge played a major role. The film business had a great business model – Kodak sold the cameras, the film, and through a network of small scale distributors, the processing that turned film into photographs. The unit of business was fundamentally a film – on a roll or in a cartridge. But, introduce digital media, and the whole system changes. For a camera company, the unit of business is now far more about sales of cameras, of accessories and (potentially) some continuing sales of photo printing services and supplies such as paper and ink. Most disturbing, from a business model point of view, is the prospect that the huge source of revenues and profits involved in the developing/printing line of business would simply disappear. One could forgive Kodak for trying to stick with its well-tried model for as long as possible.

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*firm decision makers must recognize threats to their business model's viability before it is too late, and mobilize resources to address [them].*

*Critical conversations can yield [valuable] insights*

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### Critical conversations

How, then, are leaders to spot when a particular business model is under the threat of being eroded? There are at least 3 conversations that can yield insights in this regard, if leaders are open to having them.

First are conversations with leading technologists in the firm or with those working on designing next-generation concepts. It is their job to think about future possibilities without too much reference to the existing business, so they will often be first to realize - perhaps rather dispassionately - that a model is under threat and see what might replace it. The dilemma is that they often have little interest - or incentive - to reach out to business leaders with information that might constitute bad news from a business perspective. For instance IBM's engineers foresaw the end of the main-frame dominated era and those at Microsoft could predict the threat the Internet posed to the company's model. And even at Kodak, the chemists and engineers in its fabled research labs saw the advent of digital extremely clearly: after all (although it is not well known) Kodak was a major leader in all things digital in R&D terms. But the company's decision-makers simply could not let go of the film model until events forced their hands.

Second are conversations with people knowledgeable about 'oblique competitors' - firms who are competing not directly with a focal firm for customers, but rather for something that allows the firm to function. For instance, any offer in the entertainment space consumes customers' time – a firm whose model depends on customers' spending their disposable time on its business units will need to be aware of the relative attractiveness of competing calls on this (limited) resource. Consider what some argue as the pyrrhic victory of the Sony-backed 'Blu-Ray' DVD technology over the Toshiba-backed HD technology. Despite winning this particular standards battle, pundits predict Blu-Ray may yet be undone by the rapid growth of on-line (and other) ways to

access video content - some give it as little as five years' commercial life before such new technologies make recorded DVD's irrelevant.

Third are conversations that might unearth non-customers today who could conceivably be yours (or someone else's) tomorrow. Generally, these are customers who are too poor to afford your offer, or who are geographically remote or otherwise somehow not in a firm's immediate line of sight. The best practice here is anthropological, involving investing in making deep observations of such customers and considering the implications. When Nokia, for instance, examined how customers use cell phones in India and other emerging markets, it recognized the need for a radically different business model. Its well established model would almost certainly have failed in such emerging markets - what was needed to sell phones in such places was one that accommodated collective acquisition and use, rather than individual ownership, with new phones designed to be used by many different people, and supported by attendant changes in billing, ownership and identity processes.

### **Discovery driven strategic thinking**

Conventional approaches to planning businesses suffer from a mismatch between the knowledge a firm actually possesses and the knowledge its planning systems assume it possesses. As a firm ventures into new business models, increasing numbers of the underlying assumptions it makes will differ from those inherent in its existing models, and this will place a premium on 'discovery driven' (rather than conventional) practices in planning (and in funding) forays into new business models.<sup>10</sup> Since new business models tend to be highly experimental at the outset, a planning approach that recognizes their fundamental uncertainty - and that keeps costs contained - makes sense.

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*conventional measures of strategic planning success [are] nonsensical in high-uncertainty environments - if you could predict [the future] accurately, so could everyone else: little advantage would be gained.*

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### **The difference between a discovery driven and a conventional approach**

In conventional strategic planning, the measure of a plan's success is how close your projections came to what happened later on. This is nonsensical in a high-uncertainty environment - if you could predict what was going to happen accurately, so could everyone else, and there would be very little advantage to be gained. The goal of a discovery-driven plan is therefore to learn as much as possible at the lowest possible cost, bringing us back to the theme of experimentation.

Discovery driven planning processes demand that business model assumptions are both articulated and tested. Having come up with an idea that an executive thinks represents an opportunity, the next step is to validate whether it can really deliver a compelling result for the company. The plan thus begins with a statement of success — what would make a particular strategic move worthwhile? In the process that follows, executives are required to articulate the unit of business for a plan, to create a 'reverse' income statement, which is simply a description of how much revenue would be required to throw off enough profit to make an initiative worthwhile. The business model is benchmarked against competitive models and against potential market demand. Then, the key process metrics that would support the plan are described, together with the most critical assumptions being made by the executives developing the plan. The whole concept moves forward on the basis of key checkpoints — moments in time when assumptions can be tested, and, if necessary, the plan re-evaluated: the decision to stop, redirect or to try something different can be made at each checkpoint. [Table 1](#) lays out how such a hypothetical plan might unfold for a manufacturing

**Table 1. Using check points to sequence risk (manufacturing firm)  
Manufactured Product CheckPoint/Assumption Table**

CheckPoint No.	CheckPoint event	Assumptions tested	Cost
1	Market study	All	\$3K
2	Industry analysis	All	\$10K
3	Feasibility study	All	\$25K
4	Product samples	1, 3, 4, 5	\$6K
5	Focus groups studies	1, 3, 4	\$14K
6	Advertising study	2	\$25K
7	Human resource and manpower study	7, 8, 12, 13, 14	\$25K
8	Market research: Conjoint analyses	1, 3,	\$25K
9	Trials with Beta users	1, 2, 3, 4, 5	\$25K
10	Focus group discussions with beta users	1, 3, 4	\$25K
11	Pilot plant	9, 10, 11, 15, 16, 17	\$100K
12	Pilot marketing campaign	1, 3, 4, 6, 7, 8, 17	\$80K
13	Plant design and site acquisition	18, 20, 21	\$4M
14	Pilot sales recruitment and training	1, 4, 5, 6	\$75K
15	Plant construction launch line 1	9, 10, 11, 20, 21	\$3M
16	Manufacturing recruitment and training	12, 13, 14, 15, 16, 17	\$200K
17	Plant commissioning	9, 11, 12, 15, 16, 17, 18, 20	\$150K
18	Sales recruitment and training	1, 3, 4, 5, 6, 7, 8	\$250K
19	Product launch	All	\$750K
20	Full-scale plant construction launch	All	\$10M

Figure adapted from McGrath and MacMillan, Discovery Driven Growth.

business. Note that the cost to achieve each checkpoint is identified, but that achieving a given checkpoint doesn't mean that one will necessarily move on to the next one: again, this step-wise process limits downside risk exposure (as in Figure 4).

One of the advantages of using a discovery driven planning approach is that one can experiment with business models conceptually before any investment is required. Indeed, thinking about new business models frequently involves trying to model different units of business and their key drivers. As such, this process resembles the 'rapid prototyping' version of planning, which allows teams to gain familiarity with a new model and how it would need to be executed before investments are made.

Discovery driven planning is also unusual in that it does not take a given unit of business or set of key metrics for granted. The goal, instead, is to discover the right approaches as new information is revealed. The same set of capabilities may underpin radically different business models. For instance, a company that originally intended to market a proprietary pharmaceutical product gained negative information about the market viability of this idea from its discovery driven planning experiments. So the company used the same capabilities to go into contract manufacturing for other pharmaceutical firms instead, enabling it to avoid the time and expense of conducting clinical trials.

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*It is ironic that ... new entrants and upstarts seem to capitalize on new business models more often than incumbents with their great brands, sharp people and significant resources.*

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## Barriers to the discovery driven approach

It is ironic that often the firms one would think would capitalize on new business models are the incumbents with a great many advantages — great brands, sharp people and significant resources. Instead, it is new entrants and upstarts that seem most often to benefit from rapidly growing markets. Thus, despite its company's merger with AOL, its extensive advertising experience, and its fantastic content resource, Time-Warner still managed to miss the Internet advertising opportunity; conventional video rental operations found Netflix's on-line ordering/direct shipping model difficult to cope with; and very many well-established retailers have struggled with a shift toward on-line purchasing.

One reason incumbents so often completely miss the opportunities (and threats) inherent in new models could be that their internal systems have no incentive to embrace a discovery driven approach. Giving staff the license to plan — but to plan to experiment and to learn — is a difficult assignment for many established companies, comfortable with the idea that good plans are ones that work out as expected. Typically, a firm needs a determined champion, or a real and recognized problem, or a series of unsuccessful attempts to drive growth, before the necessity of using a different planning logic becomes evident. When it does, the results can be profound. The senior team at one company I worked with felt, for the first time, that their ability to do their jobs with respect to deciding on major strategic proposals was improved because they could hone in on the critical assumptions and how these would be tested, rather than the mind-numbing (and too-often inaccurate) 'estimated' financial projections that they had worked with before.

## Conclusion

I suggested that the business model concept is a powerful idea for strategic thinking and strategic research, and allows us to shift focus from a pre-occupation with the resources a firm has, to the use to which those resources are put. As the Xerox CEO noted, identical firm-level resources could be used to chase a transaction-oriented or an annuity model. Because the annuity model contains some elements of lock-in that makes customers more sticky; because it can promise an analyzable future with some stability; and because observers can understand how annuities should be priced, the annuity model is the more attractive. This sort of analysis may well help us to understand why some firms are more successful than others, despite their similar-looking resource endowments.

With new business models, experimentation is key, and it can take place both within firms and across industries. This itself may offer another source of competitive differentiation, as some firms develop superior capabilities at experimentation and consequently can build better models more quickly than their slower counterparts.

Finally, there is a human dimension to competing on new business models that we are also beginning to understand. Encouraging leaders to question the viability of a business model, and to have the right conversations with those who might challenge it, will become increasingly important. So too will the use of planning and analysis frameworks appropriate to the level of uncertainty a company is facing.

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*the business model concept shifts focus from the resources firms have to how they use them...experimentation is key, within firms and across industries ... [conversations with] those who can challenge business model viability will become increasingly important.*

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## Biography

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