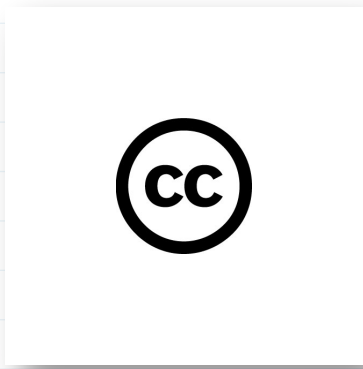
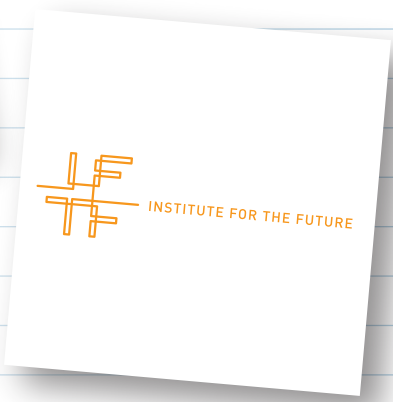


from Detroit  
to Hollywood  
to the Web

# Designing Business for an **Open World**



a collaboration between  
**Herman Miller, Inc. and Institute for the Future**

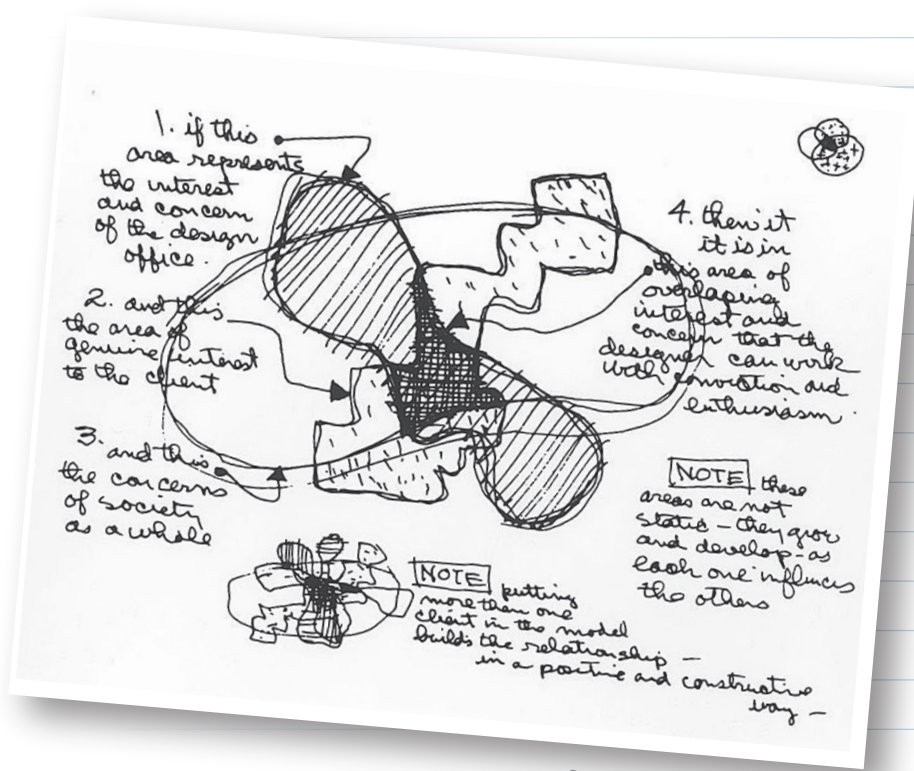
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**2006**



"True innovation is a function of a series of unexpected things coming together at a point in time. . . . The only thing I can do is to try to help . . . recognize it when it happens, and then take advantage of it."

—Charles Eames

## today's business world is suddenly full of unexpected questions:

How do you do business with an illusive network that belongs to nobody? How do you work with talented people you are likely never to meet and who are not motivated by money? How can businesses learn to "take advantage of" innovation when it comes along in an open-platform world?

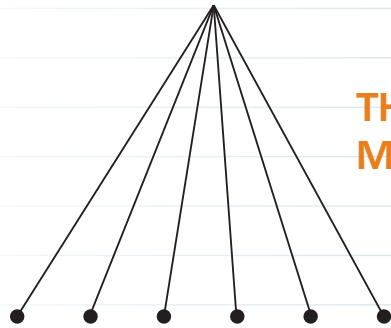
And on another level, are we seeing the beginning of the end for the existing business models based on hierarchy, planning and management, and pure competition?

We are in fact seeing a new level of change. What are the indicators? The rise of open-source development communities. The growth of an on-line knowledge commons. A shift of power to socially and technologically connected "smart mobs." And many more.

This wave of change, rising from networks and cooperative relationships, seems more unpredictable than most waves of change and perhaps larger than we would like to believe. Some have described the resulting landscape as a new kind of "sharing economy" or a "voluntarism economy."

Here is our take on eight new ways to look at organizing for, building a context around, encouraging, and taking advantage of new ways of collaborating for innovation—the emerging coin of the realm for 21st century organizations.

**Herman Miller's Future Insight Group  
with Institute for the Future**

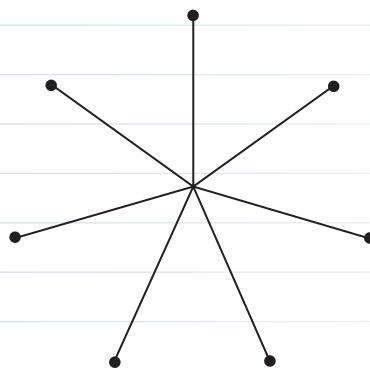


## THE DETROIT MODEL

### EFFICIENT PROCESS

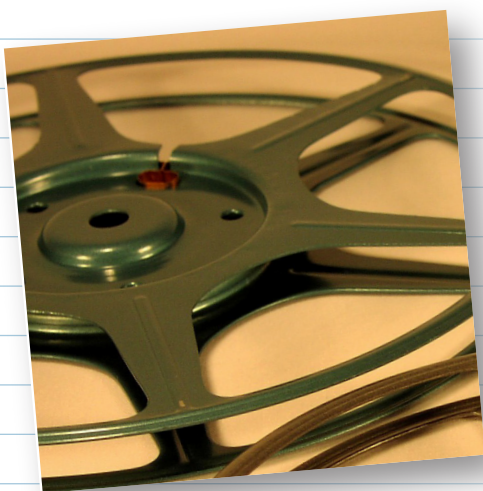
This model is the classic hierarchy—a pyramid construction. It gains efficiency by leveraging linear or vertical functional processes. Most assets for production are owned, including fulltime employees, materials, plant and equipment, marketing resources, distribution channels, and know-how. The competitive advantage is internally developed process efficiency. It is a closed system with fixed costs. Success is limited by several constraints: the size of the market, the quality of talent, the unpredictability of the transfer of expertise, and the competition's ability to replicate similar efficiencies.





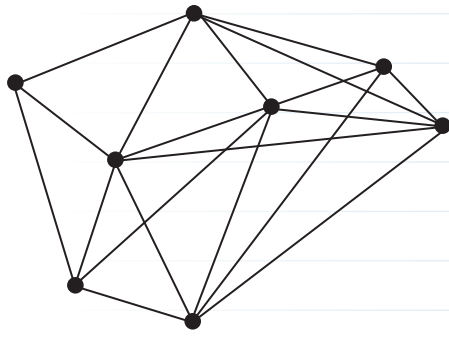
## THE HOLLYWOOD MODEL:

### NETWORKED PROJECTS



The next-wave business model focuses on networked projects. It is more horizontal in construction, its purpose is to complete high-quality projects, and its method is the hub-and-spoke network, leveraging expertise from many sources to create value. In this model, the production company at the hub of the network typically owns rights to the idea but not to the rest of the assets of production. In the case of Hollywood, a studio owns the script, but not necessarily exclusive rights to talent, including actors, technical experts, and other artists. The networked model leverages the variable costs and benefits of the critical assets that are not necessarily owned by the enterprise. Central leadership, strategy, and

brand remain proprietary. The downsides? This model's success can be compromised by a weak link in the value web or the lack of good coordination from the center or the lack of control of the assets.




**Early Tremors** indicate the evolution of an open platform model that leverages the Internet.

## THE INTERNET MODEL

### OPEN PLATFORM


With a matured Internet, we are seeing a third wave of transformation in the way we organize our society, share our personal creativity, and generate innovations. It requires a new way of thinking – “open platform thinking” -- that goes against the grain of traditional business practices and conventional business wisdom. It is hard for us to imagine. It is not what we have been taught. But a whole new generation is growing up, learning, playing, and creating in this new environment. It may not be clearly in view to us yet, but several pieces of the cooperative business landscape are here already...





### IN POP CULTURE

A new generation of professional amateurs is creating a “remix culture” that is challenging traditional notions of intellectual property. The film Star Wars Revelation is a 40-minute story that fills in the gap between Episode 3 and 4, created entirely by a group of Star Wars fans, using all Star Wars original clips, downloaded free from the web and with George Lucas’s blessing.



### IN THE SOFTWARE INDUSTRY

A new model for organizing knowledge work is emerging with peer-to-peer, open-source software production. Through voluntary participation and selection of tasks, software programmers freely contribute their time and talent to write code that builds on shared software “kernels” that are open to anyone’s innovation. Linux, Firefox, and Apache have all demonstrated that these “peer production methods” can produce robust software that rivals that of industry giants in terms of quality and speed. The result? Two thirds of the web server software and one fifth of operating systems in use are produced by this open-source method, seriously challenging the software leader Microsoft.





### **IN THE TELECOM INDUSTRY**

Traditional telecom companies are currently facing a new challenge posed by VoIP providers like Skype. Using a peer-to-peer infrastructure, a Skype member can make free calls over the Internet to anyone else who also has Skype. Voice service, the cash cow of telcos, is no longer a protected asset. What's more, Skype leverages the dynamics of social networks and the end-to-end architecture of the Internet. As more users download, the number of possible Skype nodes grows, extending its reach.



### **WIKIPEDIA!**

Wikipedia is demonstrating that hundreds of strangers can collectively and efficiently develop a valuable public repository of information—a knowledge commons. This free online encyclopedia is written collectively by volunteers using a wiki, which is an open, public, writable web page that anyone can edit and change. Wikipedia now contains over one million articles, with entries in about 100 languages. As a comparison, Encyclopedia Britannica online has about 60,000 articles and it costs a few million dollars each year to maintain it.

### **Open Platforms**

succeed because they attract diverse skills, expand scarce resources, provide adaptability, create new markets, and establish new standards.

## THREE KEY DYNAMICS

At the core of the new cooperative business landscape are three dynamics—networks, emergent self-organization, and cooperation. While these are not new phenomena, together they create systems and strategies that unlock value trapped in old models characterized by rigid hierarchies, formal resource management plans, and competitive strategies. They form a platform for rapid adaptation, creativity, and the harnessing of new resources that otherwise could not have been valued in traditional methods.

# 1

## Networks

diversify and scale more quickly than hierarchies because they cross boundaries more easily and leverage the end-to-end principle that distributes intelligence to the edges. Yet a major challenge is connecting network agents.

A major challenge for developing networks is connecting nodes and agents. Enabling individual agents to find each other and form affinity groups requires simple tools that are easily learned through imitation. Social media such as blogs, wikis, social software, instant messaging, and buddy lists help groups self-organize by making social network connections more visible and easily sharable. Blogrolls display links to other blogs, revealing bloggers' social networks, while social software like Friendster and LinkedIn explicitly invite others to link to social networks and make them visible.

**Toyota** treats its suppliers as a lateral, peer-to-peer social network rather than as subordinates competing with each other in a business hierarchy. This has some remarkable implications. In 1997, a key supplier factory that produced an essential part for Toyota's cars burned down. The network of suppliers self-assembled a working group that determined what kinds of machines were in that factory, where you could locate those machines, where you could move them, how to connect them, and how to get that assembly line going again. Because of

high levels of trust and distributed authority, the network was able to get the parts produced again and out to the assembly line, losing only two days.



In *Smart Mobs*, Howard Rheingold describes how ad hoc groups, supported by mobile communications, were able to self-organize and tip national elections in South Korea, Spain, and the Philippines—and disrupt the World Trade Organization meeting in Seattle. More recently, smart mobs have self-organized a rapid response using weblogs, cell phones and instant messaging to provide relief and funding to support victims of the Asian Tsunami and Hurricane Katrina in the Mississippi delta.

These kinds of distributed resources are sometimes difficult to leverage, however. A mechanism for aggregating disparate units of value and adding them up to form something larger is essential. Also, transparency is critical for catalyzing self-election and revealing hidden resources. For example, eBay's rating system depends on individuals rating each transaction they experience. These ratings then get aggregated into a combined numeric score. The "power seller" icon rewards honesty and converts reputation into a tangible asset.

At **HP Labs**, another kind of emergent systems, known as prediction markets, helps sales managers make more accurate forecasts. Division managers used to make forecasts about the sales of many different products every quarter, but they were less than effective. They began to ask a broader group of managers and staff in various product divisions to make bets on future sales numbers by buying and selling shares on a toy stock market. It turns out that those prediction markets were better predictors of sales than the sales experts.



**Self Organization:**

According to the theory of complex adaptive systems, self-organization is the process under which the adaptive system redesigns itself when it has been disturbed or disrupted by internal or external factors and has lost its equilibrium. Typically the new state is emergent rather than planned because it has not been experienced before and cannot be engineered with existing knowledge and skills. Emergence is the outcome—a new state or condition. Examples of emergent self-organization include bees' swarming behaviors and our immune system's resistance to influenza.

2

**Bottom-up, emergent systems**

are capable of providing solutions to complex problems and mobilizing resources rapidly. Yet directing an ad hoc distributed system is difficult.

# 3

**Cooperation** provides strategies for creating wealth by assuring shared advantages and increasing resources for the collective whole. The challenge is engaging individual self-interest to “scratch an itch.”

This strategy reframes competitive situations as non-zero-sum games—those in which someone does not have to lose in order for there to be a winner. It focuses on increasing resources for the collective whole.

The key challenge is in enlisting selfish interests to contribute to the common pool. By carefully restructuring incentives, groups can create conditions where free riding—or using a resource without sharing in the cost—can become a benefit rather than a negative. Some players have figured out how to do this well.

**Amazon**, like many other software-based online businesses, decided to release the code for its e-commerce engine (the application protocol interface or API) instead of keeping it secret. As a result, users have created 65,000 new ways of using Amazon. At LivePlasma, a programmer used

the Amazon API to create a search tool in which anyone can search for artists, bands, movies, actors, or directors and then visually browse other nodes connected to them.



**Google** has structured sharing of resources in a similar way by releasing their mapping API. People have taken crime statistics and overlaid them on Google maps, so you can find out what is happening in your neighborhood at a glance. There are literally thousands of Google Map mash-ups. It is possible to structure sharing so that the cost is low and the benefits are high—and so that individuals are rewarded for contributing to e-commerce.



## KEY CONCEPTS FROM THE THEORY OF COOPERATION

### social dilemmas:

situations in which individual rationality leads to collective irrationality.

In many social, economic, and political situations, individually reasonable behavior leads to a situation in which everyone is worse off than they might have been otherwise. All social dilemmas are marked by at least one deficient equilibrium—that is, at least one other outcome exists in which everyone is better off, but no one has an incentive to change his or her “reasonable” behavior.

### the prisoner’s dilemma:

perhaps the most famous example of a social dilemma between two people.

In game theory, this dilemma is used to test cooperative and competitive strategies. The original story involves two prisoners who are separately given the choice between testifying against the other or keeping silent. Without knowing what the other will do, the better individual outcome is always defecting.

This dilemma is at the heart of unsecured transactions. For example, consider mail order purchases among strangers. The buyer may be tempted not to send payment for the good and the seller may be tempted not to send the good but keep payment. If both defect, the mail order platform is worse off than if they had consummated the exchange.

### the assurance game:

using trust to escape the Prisoner’s Dilemma.

The name comes from the uncertainty of whether two parties can assure each other that they will cooperate in a transaction. In assurance games, increasing the level of communication to build trust increases the likelihood of cooperation. The hard part is finding the threshold of trust that will lock in cooperation. If it isn’t reached, defection is still the best strategy. The key issue in the Assurance Game is trust—enabling communication and creating mechanisms that build reputation and trust.

### the tragedy of the commons:

a social dilemma in which the maintenance of a commons is challenged by individual self-interest.

In this dilemma, a group of herders are given access to a parcel of land on which they to graze their cows. It is in each herder’s interest to put as many cows as possible onto the land. The herder receives the benefits from the additional cows, but the damage to the commons is shared by the entire group. Yet if all herders make this individually reasonable decision, the commons is destroyed, and all suffer. Once thought to be the only possible outcome for a commons, this social dilemma can be corrected by a variety of mechanisms for mutual self-monitoring.

### free riding on public goods:

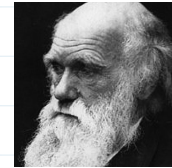
the ability to benefit from a resource regardless of whether one has helped provide the resource.

For example, You can watch public TV whether or not you contribute any money; you can enjoy public parks whether or not you pay municipal taxes. The temptation to enjoy the good without contributing to its creation or maintenance always exists, and those who do so are termed “free riders.” Recent investigations suggest that there are cases, however, in which free riding actually benefits the public good.

### symbiosis:

the coexistence of different organisms, including parasitism, commensalisms and mutualism.

Coined first in 1877, this term now describes mutually dependent relationships between two entities—a form of cooperation.



### Darwin’s “Blind Spot”

Even though Darwinian selection theory is based on an individual’s struggle for survival in competition with others of its own species and with other species, scientists have found some patterns of evolution based on cooperative behavioral interactions between entirely different species. The intimate cooperation between wholly different life forms and species is not only an amazing biological phenomenon, but a vitally important factor in the diversity of life on earth.

Ideas  
Interface  
Distribution  
Talent  
**Symbiosis**  
Zealot  
Knowledge  
**User Innovation**

In the 1990s, many companies worked to build business models on winner-take-all technology platforms. Those platforms have diffused into everyday use around the globe, but the result is something completely unexpected. They have neither secured their industry dominance nor produced more winner-take-all platforms.

Instead, they have laid the foundation for several new kinds of business platforms—platforms that leverage distributed networks, bottom-up emergent behavior, and cooperative strategies.

By their very nature, these platforms drive innovation—not just in a few markets like software production, but potentially in every industry and in every business function. They are—potentially—the building blocks of tomorrow's most innovative business models.

### CONCEPT 1

The Idea Platform leverages a flow of ideas through a solutions commons. This platform is a transparent locus—porous, neither proprietary nor secret—where solution seekers and problem solvers can freely find each other.

speed  
externalized costs  
transparency

**Eli Lilly** recognized its lack of resources to complete a research project to “chemically lop off a chunk of raw synthesized material before the rest of the material could be used as an intermediate in the syntheses.” So the company created a website to invite collaboration from the global scientific community.

Acting as a solution seeker, they posted the scientific problem hoping that a problem-solver scientist within the worldwide register would, in fact, solve the problem. The company put up a \$25,000 bounty, and within three months they got a solution and paid the solver. The reward was significant for the winner, but far less than the company would have spent to support an equal number of scientists working on the problem within their corporate walls.

The Eli Lilly logo, featuring the word "Lilly" in a red, cursive script font, is positioned in the bottom left corner of the text box. It is set against a white background with a subtle drop shadow.



## CONCEPT 2

The Talent Platform is a network of diverse individuals mobilized by equally diverse motivations. They self-select tasks and self-organize into groups to create knowledge, solve problems, and develop resources. Leadership emerges from the context of tasks and problems rather than being assumed by title or organizational position. Peers acknowledge and follow a leader by virtue of his or her skills. It isn't "What does the boss want?" but rather "Who should be the boss now?"

## SELF-ORGANIZING GROUPS

### self-selected tasks

### contextual leadership

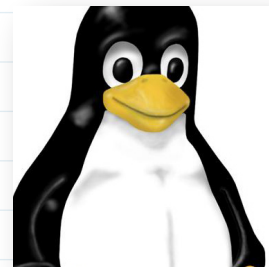
**Linux** open-source software is a well-known example of a Talent Platform. Linux source code is freely open to anyone to write, run, modify, and redistribute. No manager or executive designs coding jobs, assigns work to staff, or coordinates activities from the top down. Volunteer programmers write, test, debug, and evolve the code over time, making it a robust system. Volunteers select what tasks they want to work on and receive little, if any, financial reward for their contribution.

Linus Torvald, the developer of the original Linux kernel, depends on a distributed band of software geeks and professionals, many of whom work day jobs in leading software companies. His leadership challenge is how to create a governance structure that can balance the value and risk of an open production system.

#### Specifically:

- What do you control?
- When do you take something from proprietary to open (which fundamentally changes the basis of cooperation and core bargains)?
- How do you select and deselect elements of innovations?
- How many parallel solution streams can be tolerated?
- What is the nature of leadership required?

Steven Weber, author of *The Success of Open Source*, suggests that a Talent Platform's power derives from asymmetrical interdependence—colloquially, the ability to get you want by letting or helping someone else get what they want.



CONCEPT 3

By providing access to information, software code, or core products, a **Symbiosis Platform** opens the gates for outside parties to help develop an abundance of new symbiotic products and services that can either increase a company's existing assets or lead to innovations in adjacent markets.

under-the-hood access

rapid feature extensions  
adjacent markets

**Apple** has shown through the past decades a great talent for developing and branding products. The company has enormous brand recognition and spends a lot on marketing and promotion tools. The combination of the two turned iPod into a desirable platform for manufacturers such as Belkin, JBL, Bose, Logic3, Harman Kardon, Nike, and many others to invest their own resources into iPod-compatible products.

Apple benefits from these third-party innovations on their own core product, with low—or even no—investment in those R&D costs. And even though the company doesn't always gain direct sales dollars from these new products, this platform does two things for the brand:

- It leads Apple to adjacent markets and unlocks new development paths for them
- It creates a large network of potential partners who might be useful for future development of Apple products and services



**eBay** is a \$3 billion dollar company with 33 million weekly auction items. It opened its auction database to the “technocrati” for innovation. Some 15,000 developers have since registered to use those listings and other software features. Among the many third-party innovations are services that link pawn shops to eBay's auction market and others for automating transactions and making eBay mobile.

## CONCEPT 4

The **User Innovation Platform** helps a company develop core products or services up to a certain level and then allows lead users to take them to the next levels. While this may look like mass customization, it is really about developing a community of users who express themselves not only through their innovations of the product, but also through their relationship with the community as a whole.

user developer  
COMMUNITIES OF SELF-EXPRESSION  
brand loyalty

Games like **The Sims** are platforms for players to collectively create communities and other artifacts of personal expression. Four months before *The Sims* shipped, Electronic Arts (EA) developers decided to release tools that allowed players to create custom objects for the game. By the time the game was released, 50 fan sites had been created, 40 artists were designing new artifacts, and 50,000 people were collecting that content: 250,000 game boxes were sold in the first week.

These kinds of platforms have a great advantage over manufacturer-centric innovation because they tap the individual and collective imagination of the user community to develop things that users want most, without the limitations of a small team of developers or suppliers. When leading edge users innovate, it creates a particularly powerful effect.



## CONCEPT 5

**The Interface Platform** engages others—by invitation or serendipitously—to enrich and extend one experience with a variety of related experiences. It makes brand or design the hub of complementary experiences. And at the center of the experience is the individual, the unique “me” who’s making it all very personal.

# branded design

## EXPERIENCE HUB

### evolving plug-in’s



In **Starbucks** coffee shops, the brand is experience, and the company has opened this experience—its space—as a platform for other service providers to plug in: wireless access, music DVDs, coffee accessories.

This “lifestyle concept” is built around the smell of coffee, friendship, the ability to work anywhere, a noisy and multi-age environment. Starbucks’ space is “my space” for the time I’m there.



With the the new **X-Box**, Bill Gates hopes to turn the game console into the personal entertainment hub of the HDTV home. Microsoft intends the new Xbox to be “always connected to the Internet. Finish a game and you immediately can buy new levels online.” The console can also plug into other digital gadgets or share digital photos and music with the PC via a wireless or wired network. In bridging the world of play and work, it redefines the experience of both computing and entertainment.

## CONCEPT 6

**The Zealot Platform** helps sharing economies generate revenue by leveraging social networks. It's the evolution of the fan club into a friend-of-a-friend (FOAF) network of people eager to support their favorite art or artist or cause. And because FOAF networks grow exponentially, penny spending adds up to real dollars.

sharing economies  
leveraged connections  
swarm marketing

**MySpace** is a social networking site like Friendster, but nearly 400,000 of the site's roughly 30 million user pages belong to bands. The rest belong mostly to teens and twenty-somethings who attend the bands' shows, download their songs, read their blogs, send them fan mail, and enthusiastically spread the buzz. In essence, MySpace is a "hit factory" for a new breed of musical artists without major labels, marketing, or airplay. MySpace, which currently gets more hits than Google, is becoming the MTV for the Net generation. Major music producers are now screening MySpace in search of new talent.

MySpace moves beyond the old model of music promotion, which counted on a few blockbusters to finance dozens of expensive failures. The artists on MySpace give away their best two or three songs as free downloads and use social networking and email blasts to reach an audience hungry for new music. Converts become zealots, more than making up for any lost CD revenue through sales of concert tickets, T-shirts, messenger bags, hoodies, posters, and bumper stickers. With little fanfare, these groups are creating a new middle tier of popular music—acts that can make a full-time living selling only a modest number of discs, on the order of 50,000 to 500,000 per release.



## CONCEPT 7

**Knowledge Platforms** leverage tacit knowledge co-created by lateral social network exchanges into a basis for emergent learning. Rather than categorizing—and protecting—knowledge in proprietary formal databases, they are much more likely to tap into the informal categories—or *folksonomies*—that emerge when people share information informally. Rather than using proprietary knowledge to negotiate the “best deal,” they use open networks of knowledge to build broad-based competency and resources.

# EMERGENT LEARNING

## folksonomies

### co-created knowledge

Compare **Toyota's** relationship with suppliers to the way the Big Three automakers in the U.S. treat their suppliers. The Big Three negotiate to the last penny; the relationship is often adversarial. In particular, if a supplier succeeds in a process improvement that lowers costs, he knows that, in one negotiation round, General Motors will come back and demand a price concession taking away that benefit. With that kind of relationship, there's very little incentive to share a process innovation with anyone, least of all General Motors.

Toyota, on the other hand, allows its suppliers to keep the benefits of their innovation, but it insists that that process improvement in technology be shared— not just with Toyota but also with all the other component suppliers who may also supply the Big Three. Even though the sharing is not exclusive, Toyota is insulated from competition because the co-created knowledge is tacit, non-replicable outside the sharing culture. This practice

has driven up productivity in the whole Toyota supply chain: over a 30-year period, its productivity has gone up six times as much as in the U.S. system.



## CONCEPT 8

**The Distribution Platform** deciphers the buying patterns of millions to predict and extend individual customer demand deep into the "long tail" of niche markets, whose aggregated value generate greater value than the mass-appeal blockbuster hits. It is not structured around product lines nor vertical markets, but the hidden similarities of customer interest.

# pattern recognition recommendation system

## aggregated long tail

**Amazon's** recommendation system tells customers what other "customers who bought this also bought." Amazon takes its knowledge of purchases and creates links across common interests and preferences of its customers. The result is a powerful tool that can aggregate products and increase sales, support cross-vertical market and third-party offerings, and bridge niche supply-and-demand by promoting add-ons.

What is the recommendation system doing? It's driving demand down the so-called "long tail." It is a powerful new economic model that allows for mass customization by the abundant supply of digital content that has zero manufacturing cost beyond the first copy. By divorcing distribution from target customer geography and the scarcity of shelf space, companies like Amazon, Netflix, and iTunes are able to meet their customers' unique tastes deep into the long tail of the demand curve. This flips hits-driven economies upside down. Combine enough non-hits on the long rail, and you've got a market bigger than the hits. Consider books as an example: the average Barnes & Noble store carries 130,000 titles. Popularity no longer has a monopoly on profitability.



amazon.com<sup>®</sup>  
and you're done.™

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