

Innovation Through Collaboration

THIS IDEA OF A TIPPING POINT COMES FROM WRITER MALCOLM GLADWELL, WHO DESCRIBES THE MOMENT OF CRITICAL MASS WHEN RADICAL CHANGE IS MORE THAN JUST POSSIBLE, BUT IS A CERTAINTY. THANKS TO THE COMMUNICATION CAPABILITIES OF THE INTERNET, COINS ARE AT THAT THRESHOLD; THEY HAVE ACHIEVED GLOBAL REACH AND THEY CAN SPREAD AT VIRAL SPEED. GLADWELL USES THE WORD "EPIDEMIC" TO DESCRIBE WHAT HAPPENS AT THE TIPPING POINT.

BY PETER A. GLOOR

We are at the dawn of a new way of working together, thanks in large part to technological advances that make possible a radically superior mode of innovation. Soon, businesses throughout the world will be looking for ways to unleash the power of their Collaborative Innovation Networks. Some will be scrambling to figure out how to innovate in the new business environment.

Few today know COINs—Collaborative Innovation Networks—by that name, even though they have been around for hundreds of years. Many of us have already collaborated in COINs without even knowing it.

What makes them so relevant today is that they have reached their tipping point.

This idea of a tipping point comes from writer Malcolm Gladwell, who describes the moment of critical mass when radical change is more than just possible, but is a certainty. Thanks to the communication capabilities of the Internet, COINs are at that threshold; they have achieved global reach and they can spread at viral speed. Gladwell uses the word

A Collaborative Innovation Network is a cyberteam of self-motivated people with a collective vision, enabled by the Web to collaborate in achieving a common goal by sharing ideas, information and work.

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“epidemic” to describe what happens at the tipping point.

What is a Collaborative Innovation Network? A Collaborative Innovation Network is a cyberteam of self-motivated people with a collective vision, enabled by the Web to collaborate in achieving a common goal by sharing ideas, information and work.

In a COIN, knowledge workers collaborate and share in internal transparency. They communicate directly rather than through hierarchies. And they innovate and work toward common goals in self-organization instead of being ordered to do so. Working this way is key to successful innovation, and it is no exaggeration to state that COINs are the most productive engines of innovation ever. COINs produced some of the most revolutionary drivers of change of the Internet Age such as the World Wide Web and Linux.

THE HISTORY

The creation of the Web is such an exemplary COIN that it warrants some further mention. When Tim Berners-Lee introduced the World Wide Web to the academic world at the 1991 ACM Hypertext conference in San Antonio, Texas, the hypertext concept had already come a long way.

A series of visionaries before Berners-Lee proposed the basic ideas behind the Web, namely to link pieces of information and make them accessible to many users. The first was Vannevar Bush, the famous scientist and advisor to Franklin Delano Roosevelt. In a 1945 magazine article, he described a system called

If you and I
swap a dollar,
you and I still
each have a
dollar. If you
and I swap an
idea, you and
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ideas each.

Memex to make and follow links. But the information technology that emerged in the 1950s consisted of microfiches and card readers, and Bush's Memex system

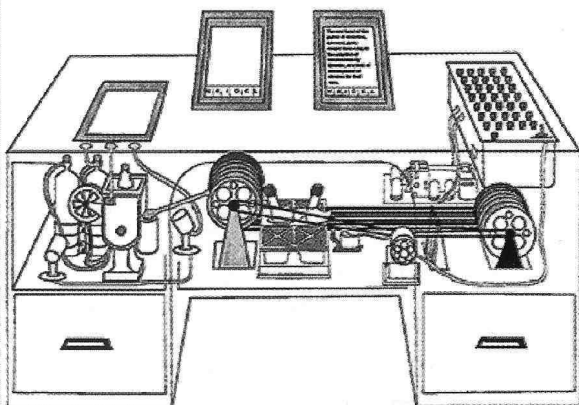
was never built in his lifetime.

In the 1960s, other visionaries moved the idea forward. Ted Nelson, who coined the term “hypertext,” and computer scientist Douglas Engelbart, who demonstrated the first working hypertext system, took up Vannevar Bush's idea. Engelbart invented the computer mouse while building the prototype “oNLine System” (NLS) that did hypertext browsing, editing and e-mail. But both men were still ahead of their time, and the spark did not yet fully ignite.

In the late 1980s, the hypertext concept found a firm footing in the academic computer science community, bringing together hundreds of researchers at the annual hypertext conferences. But it was only in the early 1990s that technology and the social context were ready and a team of enthusiasts got together to spin the Web.

Tim Berners-Lee wrote his first hypertext system—Enquire—in 1980 while a consultant for CERN, the European Organization for Nuclear Research laboratory. It took him years of grassroots lobbying at CERN, writing and circulating research proposals, until his boss finally approved the purchase of a Next computer in 1990s and allowed Tim to go ahead and write a global hypertext system. That same year, Robert Cailliau,

innovate: → collaborate: → communicate:



Vannevar Bush's
Memex 1945



Tim Berners-Lee's
NeXT Cube, 1991



Sony-Ericsson P900
Internet-enabled
mobile phone, 2004

another hypertext enthusiast from the CERN computer group, joined the effort. Together, they developed the first Web browser, editor and server, soon reinforced by a small team of volunteers, mostly summer students at CERN.

Finally, in December 1991 at that San Antonio conference, Tim and Robert presented the ideas of their group to the academic community at large. By then, the virus had already spread, and the first Web server outside of Europe had been installed. People flocked to the Web development team, and programmers from Finland, Austria, Germany, France and California built new versions of Web browsers and servers. When in February 1993 Marc Andreessen from the National Center for Supercomputing Applications (NCSA) at the University of Illinois released a browser called "Mosaic," the tipping point was reached. The Web exploded. The next year, Marc and his colleagues left NCSA to form Mosaic Communications Corp., which later became Netscape and turned these twentysomethings into very young millionaires.

The birth and explosive growth of the Web exhibits all the characteristics of a highly successful Collaborative Innovation Network at work. COINs offer tremendous innovative power, and we'll see how Tom Malone's statement at the beginning of this article is really true. If working collaboratively, in a transparent environment, is "giving away" power, it is also the way to gain the power of COINs.

What makes COINs better? They allow for building organizations that are more creative, productive and efficient by applying principles of creative collaboration, knowledge sharing and social networking. Sponsors and members of Collaborative Innovation Networks often

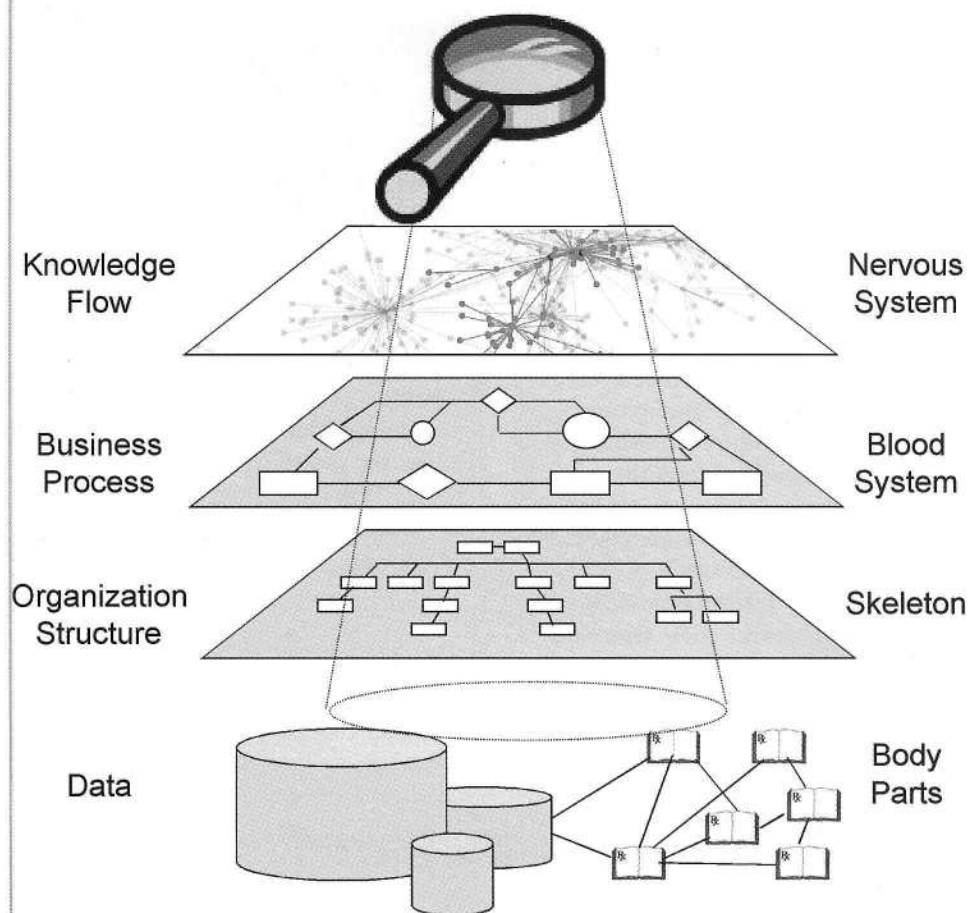
Three characteristics define Collaborative Innovation Networks.

>>COINs innovate through massive collaborative creativity.

>>COINs collaborate under a strict ethical code.

>>COINs communicate in direct-contact networks.

Knowledge Flow Through Business



By analyzing and aligning business processes and knowledge flow, organizations get a unique opportunity to unleash the swarm creativity of their Collaborative Innovation Networks.

change their work and leadership styles to become more creative innovators, more efficient communicators, and more productive collaborators. The evidence shows that COINs can be leveraged to develop successful products in R&D, grow better customer relationships, establish better project management processes and build high performing teams. COIN-enabled organizations demonstrate more efficient leadership, culture, structure and business processes.

WHAT MAKES A COIN?

Members of Collaborative Innovation

Networks self-organize as cyberteams—teams that connect people through the Internet enabling them to work together more easily by communicating not through hierarchies, but directly with each other. The individuals in COINs are highly motivated, working together towards a common goal not because of orders from their superiors (although they may be brought together in that way), but because they share the same goal.

People in COINs usually assemble around a new idea outside of organizational boundaries and across conventional

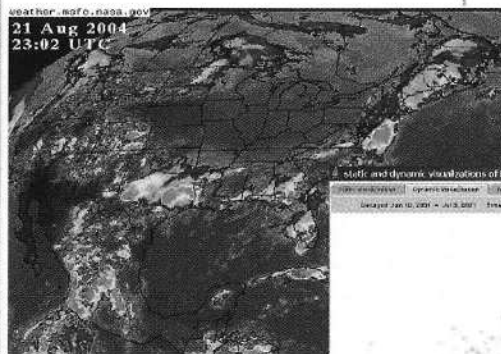
hierarchies. They innovate together in swarm creativity. By “swarming together,” they work together in a structure that enables a fluid creation and exchange of ideas. Looked at from the outside, the structure of a COIN may look chaotic, like a bee or ant colony, but inside it is immensely productive because each team member knows intuitively what he or she needs to do.

COINs have three types of members: There are the creators who come up with the visionary ideas, the communicators who serve as ambassadors of COINs and help carry new inventions over their tipping points and the collaborators who form the “glue” of a COIN and make it see the vision through to reality.

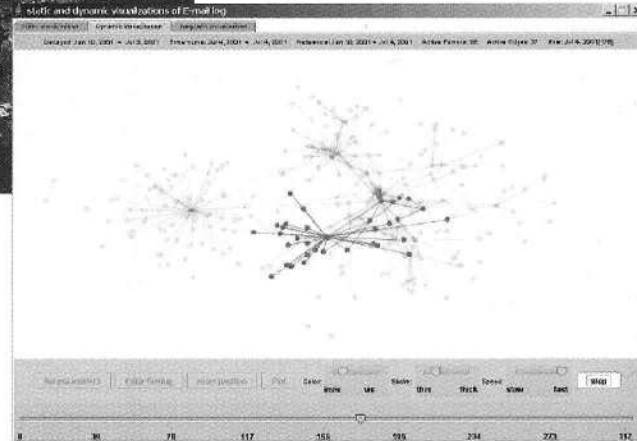
COIN members develop new ideas as a team; the whole is much more than the sum of its parts. They create and share knowledge in an environment of high trust by collaborating under a common code of ethics.

COLLABORATIVE INNOVATION THROUGH SWARM CREATIVITY

Swarm creativity is an odd phrase, not one that you’ll find in the parlance of most organizations, business or otherwise. But the idea of “swarm creativity” promises to become more and more familiar to those seeking to stay on the cutting edge of



Weather patterns and communication patterns allow for predicting the future (Visualization by iQuest Analytics software)



insects, through direct and indirect interactions, is a very different way of performing complex tasks – and it closely resembles the behavior of COIN team members.

Open-source developers, for instance, exhibit behavioral patterns similar to an ant colony. While the behavior of the individual programmer might appear random, open source developers are—like ants—self-organized to build impressive software systems, directed by lead developers such as Linux creator Linus Torvalds (the “queen ant”),

They share a common code of ethics that forms a sort of collaborative bond based on similar expertise and shared goals.

Perhaps nothing expresses the main motivation for swarm creativity better than something I read on a napkin in a San Francisco restaurant: If you and I swap a dollar, you and I still each have a dollar. If you and I swap an idea, you and I have two ideas each.

By openly sharing ideas and work, a team’s creative output is exponentially more than the sum of the creative outputs of all the individual team members. While swarm intelligence is based on equal sharing of information, swarm creativity is founded on the open sharing of ideas.

TRANSFORMING ORGANIZATIONS TO SUPPORT COINs

The blood system energizes the human body, but the human body also needs the nervous system to steer and supervise its vital functions. Similarly, while a company’s lifeblood flows through its business processes, the long-term health of the company depends in large part on its knowledge flow.

Similarly to weather forecasting, Knowledge Flow Optimization analyzes communication patterns consisting of time series of collected communication data. These patterns provide insights into complex group dynamics and make it pos-

Swarm intelligence in social insects is based on self-organization; no one is in charge, but social insects successfully solve complex tasks.

innovation. Swarm creativity is derived from the fascinating world of social insects. Individually, one insect may not be capable of much; collectively, social insects are capable of achieving great things. They build and defend nests, forage for food, take care of the brood, divide labor, form bridges and much more. Swarm intelligence in social insects is based on self-organization; no one is in charge, but social insects successfully solve complex tasks. The self-organization of social

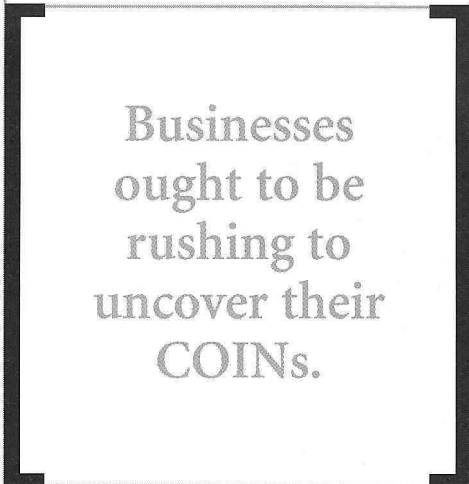
who impress their distinctive brand and flavor on their “colony” of software developers.

The crucial point is that in social insect colonies, as in COINs, there is no individual giving marching orders. Neither the queen ant nor the lead developer of an open source team directs the individual behavior of the individual. Watched individually, members of a COIN may appear like individual ants to behave erratically. But like an ant colony, the entire COIN operates as a highly efficient self-organizing community.

sible to predict future group behavior.

As with weather patterns used to predict sunshine and thunderstorms, communication flows allow for predicting positive and negative developments in groups of people. It requires a delicate combination of mathematical modeling, experience and intuition. Knowledge Flow Optimization is extremely valuable as an early warning system, showing high-pressure systems, impending storms, and other relationships in groups that are difficult to anticipate through other means. It offers insights into organizational dynamics. By analyzing and aligning business processes and knowledge flow, organizations get a unique opportunity to unleash the swarm creativity of their Collaborative Innovation Networks. This will significantly increase the productivity of knowledge workers through greater creativity, efficiency and quality.

Businesses ought to be rushing to uncover their COINs and nurture them, building organizations that are more creative, pro-



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ductive and efficient by applying principles of creative collaboration, knowledge sharing and social networking. COINs can be used to develop successful products in R&D, grow better customer relationships, establish better project management processes and build higher-performing teams.

COINs will be the foundation of virtual teamworking for tomorrow's increasingly

virtual global companies. Operations that explicitly support a culture for COINs have a more efficient operating environment where self-motivated individuals create and share knowledge. The creation of these ethical, small-world, "swarming" virtual communities is now a decisive factor for high-performing companies. ¹

Adapted from *Swarm Creativity*, Peter A. Gloor, 2006. Used by permission of Oxford University Press.

Dr. Peter A. Gloor is a visiting scholar at the Center for Coordination Science at MIT's Sloan School of Management and a research fellow at the Center for Digital Strategies at Tuck at Dartmouth. Gloor is also Mercator Visiting Professor at the University of Cologne. At MIT, Gloor leads a project researching Collaborative Innovation Networks. Gloor is also chief scientist and president of iQuest Analytics. He is a frequent speaker at international business and academic conferences and seminars.