An expert on social networks, Thomas W. Malone is a professor at the MIT Sloan School of Management and director of its Center for Collective Intelligence, which he set up in 2006. He was also founder and director of the MIT Center for Coordination Science and co-director for the MIT Initiative “Inventing the Organizations of the 21st Century.” He holds two Master’s degrees as well as a Ph.D. from Stanford University. A founder of three software companies, a consultant and teacher, he has participated in many international conferences and was a speaker at the 2010 Davos Forum. Two decades of research are condensed into his book The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style, and Your Life (Harvard Business School Press, 2004).
Social networks are encouraging the emergence of a collective intelligence, free from hierarchical control, which will fundamentally change the way in which companies are organized. Thomas W. Malone, MIT professor and researcher, shares his insights.

**“GIVE MORE EMPLOYEES THE ABILITY TO MAKE THEIR OWN DECISIONS”**

Capgemini: The rise of social networks is very recent and enjoying great success. Is this just another passing trend—or is it part of a longer-term shift?

We are definitely talking about the long term. In *The Future of Work* (see the biographical note opposite), I talk about the way in which our societies have been transformed over time, moving from the bands of 20 to 30 hunter-gatherers in which our ancestors lived, to monarchies and, over the past two centuries or so, to democracies.

These successive changes in the organization of human societies are the result of spectacular developments in the means of communications since new technologies came on the scene. There have been three major technological inventions: writing, enabling a large number of people to live and work together; the printing press, which made it possible to disseminate writing widely, both in time and in space; and finally, the Internet—or, in the wider sense, electronic communications. This latest invention may prove to be as crucial as the other two. It makes possible the spread of writing (information in the widest sense) in a way that is much quicker, a lot cheaper and affects many more people than the preceding technologies. Democracies began to spread with the invention of the printing press. That process began more than five centuries ago, and we have not seen the end of it yet.

Your book *The Future of Work* came out in 2004. Since then, the social networks have brought about real changes in our lives. But what has been their effect on the organization and management of companies in 2011?

We are only seeing the beginning of what I believe will be a growing trend—greater freedom in work. Over the longer term, this may well turn out to be as important as the advent of democracy for governments. I believe it is the fruit of a new generation of information technologies—the Internet, the World Wide Web, the social networks—which reduce the costs of communication to such a point that it is now possible for an increasing number of individuals to have access to enough information for taking their own decisions, rather than having to submit to what their hierarchy tells them to do. For the first time in the history of mankind, we are able to enjoy, at one and the same time, both the benefits of large organizations—economies of scale—and, on the micro level, human values—such as freedom, flexibility, creativity and motivation.

The MIT Center for Collective Intelligence was set up in 2006 to look into the question “How could people and computers be connected so that, together, they act more intelligently than any person, group, or computer has ever done before?” What might be today’s answer?
There will never be a final answer. The search for intelligence and performance is endless. And the question itself hints at new frontiers. Wikipedia, Google, eBay, InnoCentive, or the community that developed Linux—these are all examples of collective intelligence, and they would not exist without the Internet.

Instead of giving you a list, I think we should look more precisely at what the examples I cited above have in common. During our research here at MIT, we identified more than 200 examples of collective intelligence and, within that group, 16 different forms of functioning that we call “genes,” by analogy with biological genes. This allowed us to map the “genomes” in collective intelligence, just as biologists have mapped the genome of humans or other animal species.

The 16 “genes”—for example, crowds, contests, collaborations, prediction markets and so on—may be combined in different ways within collective intelligence systems. By deepening our knowledge of these 16 genes, and identifying new ones, we will be able to establish a much more rigorous research framework. We should then be able to design new ways for coming up with an answer to the question we asked in 2006.

Some companies have integrated social networks into their strategic and operating structures. What do they have in common, and are they more successful than their competitors?

Not all companies need to change radically their ways of operating. In some sectors, however, they will have no choice but to adapt. I believe that one of the strongest trends, and the most widely shared, is about giving more freedom to more people, which gives more people the possibility of taking decisions. The usual word for describing this is “decentralization.” I am not talking here about just giving more decision-making powers at a lower management level. I am referring to the thousands of employees within a company—or outside it—who are becoming capable of taking decisions previously taken by managers much higher in the company’s hierarchical chain. This is the “crowd” gene we classified in our research. Under our definition, individuals would no longer be assigned a task, but would decide what they wanted to work on, according to their talents and interests. Wikipedia is a good example of this: no one is asked to write an article on any subject; anyone can write or edit on whatever subject they choose.

Clearly, a change of this magnitude will not happen from one day to the next. Most companies will take decades to evolve from a hierarchical system to a decentralized network mode. But this is a growing trend, in spite of the reluctance some managers might feel about delegating some of the powers.

What top strategies should companies adopt to get the most out of social networks?

The social networks are only part of a larger phenomenon that includes new technologies. They help individuals to communicate, collaborate and coordinate more effectively. The best way for companies to use these new possibilities is not to think in technological terms, but rather to re-think what it is they want to achieve—what are their aims, their strategies and what are the processes they need to adopt to achieve those objectives. In a great many companies, the best ideas on how to make the most of the social networks come from the youngest employees, often the most recently hired, at whatever level within the company.

Social networks are not just about cables and computers. Many other disciplines such as anthropology, neuroscience, sociology and biology are helping to tap their fertile resources. What role could these other disciplines play in the design and development of the systems and organizations that the global economy is calling for?

The social networks and collective intelligence are much more than simply a jumble of cables and computers. They are, to a large degree, about people and how they communicate and connect with one another. This concept lies at the core of research at the MIT Center for Collective Intelligence that I direct. We bring together researchers from many different disciplines, including management, economics, computer science, brain and cognitive science and many others. I believe in this multi-disciplinary approach. In a world increasingly based on information and knowledge, productivity on its own is no longer an adequate criterion for measuring how well organizations are performing. Their intelligence must also come into the equation. Can we create systems that are not only productive, but intelligent as well? Can we devise systems that respond rapidly to changes in their environment, able to make good decisions based on the information they have to hand?

We are working on measuring the collective intelligence of groups of people, drawing on the same methods used by psychologists for measuring human IQ. We found that it is possible to calculate for groups, as for individuals, a single statistical factor that predicts how they will perform a large number of tasks. We also found that the collective intelligence factor is not strongly linked to the individual intelligence of the group’s members. In groups of between two to five people, those with high IQ members were not necessarily the most collectively intelligent.

How do you explain this?

We discovered that the intelligence of a group is strongly influenced by three factors. The first is social sensitivity. Groups where people are good at taking into account the feelings of others and working effectively with their fellow members are generally more intelligent than groups without this capacity. The second factor concerns how evenly discussion is shared...
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between the group’s members. Groups where one person dominated the conversation were, in general, less intelligent than those where there was a freer exchange. And finally, to our surprise, we discovered that the collective intelligence of a group is strongly linked to the proportion of women in the group. I should add that this third factor is directly linked to the first, namely social sensitivity.

It would be interesting now—and we are working on it—to test a company’s top management team and predict how well they would respond to a wide range of challenges they might face in the coming years.

We would also like to use specially designed software programs to help the members of a group to work together more effectively on a wide range of tasks. Over time, we think that it will be possible to use computers to help improve the collective intelligence of much larger groups: from 5 to 50, from 50 to 500 and why not 5,000?

What role could Capgemini play in these complex and profound transformations?

We are at the dawn of profound transformations in the organization of work and companies. This change will be as important as the one which saw the move from monar-