



Intelligent Collaboration

A conversation about collaboration and collective intelligence with renowned organizational theorist and the author of *The Future of Work*, Professor Thomas W. Malone

Interview by Chris Beveridge, Cisco Executive Thought Leadership

Thomas W. Malone is the Patrick J. McGovern Professor of Management at the MIT Sloan School of Management and the founding director of the MIT Center for Collective Intelligence. He was also the founding director of the MIT Center for Coordination Science and one of the two founding co-directors of the MIT Initiative on “Inventing the Organizations of the 21st Century.”

The past two decades of Malone’s research are summarized in *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). Here, he discusses how organizations can harness the potential of collaboration and collective intelligence.

ETL: How would you define collaboration? And how does that compare with collective intelligence?

Thomas Malone: Well, the very word collaboration comes from the root meaning, “work together.” So I think collaboration means working together, but I think it actually means working together, on interdependent parts, toward a common goal. My definition of collective intelligence is groups or individuals acting collectively in ways that seem intelligent.

I think both of those definitions mean very close to the same thing. It’s important to realize that both of them imply both the notion of a common or shared goal, and the notion of some kind of interdependencies between the parts. I think that collective intelligence is essentially a sub-set of collaboration. [You can think of] collective

intelligence as intelligent collaboration. For instance, you could have a group of people collaborating to dig a ditch, but you probably wouldn’t want to call that collective intelligence. On the other hand, a group of people collectively creating an article on Wikipedia, if they do a good job, I would certainly call collective intelligence.

ETL: Is collaboration happening more now than in the past?

Thomas Malone: I think it is. I think it’s happening in different ways. It’s possible for many more people to collaborate over much wider distances with many more people at a time, than was ever possible before, because of new information technologies.

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ETL: Why do you think people are increasingly interested in collaboration?

Thomas Malone: I think it's because the new technologies make it possible to share information much more widely. And they let many more people make more decisions for themselves. That means many more people have to be able to collaborate as peers, rather than just following orders from someone above them in a hierarchy.

ETL: What effect is the drastic reduction in communication cost and complexity having on business?

Thomas Malone: I think it's a huge effect. I think that we're in the early stages of an increase in human freedom in business that may, in the long run, be as important a change for business as the change to democracies was for governments. It's now possible for the first time to have both the economic benefits of very large organizations—things like economies of scale—and at the same time to have the human benefits of very small organizations—things like freedom, flexibility, motivation, and creativity. And the reason

that's possible is because a new generation of information technologies—e-mail, the world wide web, cheap long-distance calling, the Internet in general—all those technologies are reducing the costs of communication to such a low level that it's now possible for huge numbers of people, even in very large organizations, to have enough information [to] make sensible decisions for themselves.

But just because something is possible doesn't mean it will necessarily happen. In this case, what I think will drive these changes is what people want, and in particular the business benefits of giving people more freedom. When more people are making more decisions for themselves, they're often more highly motivated, more dedicated, more creative. They're able to be more flexible, and often they just plan like it better.

Those benefits won't be important in all parts of business. In some parts of business, [for example] in making certain kinds of semi-conductor chips, the most important factors in business

success are just economies of scale. And in those cases, I'd expect decreasing costs of communication to lead to even more centralization, in order to more easily take advantage of those economies of scale.

But—and here's a key point—in our increasingly knowledge-based and innovation-driven economy, the critical factors in business success are often precisely the same things as the benefits of decentralized decision making, things like motivation, creativity and innovation. So that's why I think that, even though it won't happen everywhere in our economy, we're likely to see more and more examples of decentralized decision making, of more people having more freedom to make more decisions for themselves. We're likely to see more and more examples of that in more and more parts of our economy over the coming decades.

ETL: Do you think that decentralization is the future of business?

Thomas Malone: I do. [By decentralization] I don't just mean more divisional vice presidents having power as opposed

to CEOs. By decentralization I mean vast numbers of people throughout big organizations having more power to make more decisions for themselves.

That's one of the most important sea changes in the future of business. I think that in the long run—50, 100, or 150 years from now—we may well look back on the first few decades of the 21st century as a [time of] change in business that was as important as the changes in the industrial revolution.

ETL: Do you believe some people are natural collaborators?

Thomas Malone: Well, that reminds me of a similar question that's often asked about leaders, which is, "Are leaders born or made?" My favorite answer to that question comes from General George C. Marshall, one of the few five-star generals in the history of the U.S. Army. Somebody [once asked him], "General Marshall, do you think leaders are born or made?" He thought for a minute, and he said, "They're born ... then made." I think the answer is true about collaboration, just as it's true about leadership—that all of us are born with some natural abilities that may make some of us more easily able to lead others, or to collaborate with others. But I think all of us, if we want to—and the *if we want to* is an important qualification here—are capable of learning to be better leaders and better collaborators. In fact, one of the things that I think is happening is that the difference between the two is blurring.

My colleagues and I have talked a lot about distributed leadership and the increasing importance of leadership not just being something that happens at the very top of an organization, but something that can happen at the top, the bottom, and everywhere in the middle. And [in] this rapidly changing world,

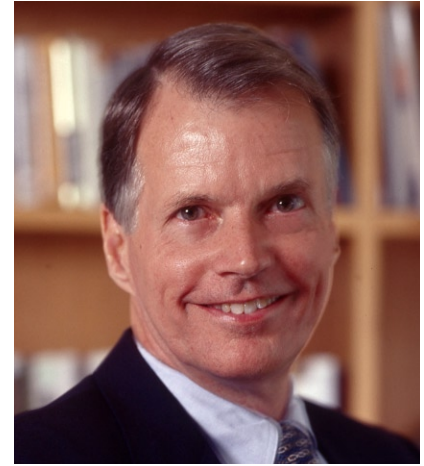
more and more people have to be able to help make sense of what's happening [around them], more and more people need to be able to come up with visions about what to do about those things and be able to figure out for themselves how to achieve the things that need to be done. I think the ability to collaborate effectively with other people, the ability to lead other people whether you do or don't have formal authority over them, can be learned and can be developed. *If you want to.*

ETL: How can organizations measure the benefits of collaboration?

Thomas Malone: Let me give two answers. The first is the simple answer, which is that if you have any measure of the performance of an organization, you can use that, in part, to measure the effectiveness of collaboration. If you're evaluating a company, for instance, on the basis of profitability or sales effectiveness or shareholder return, you can use any kind of overall measure like that to measure the effectiveness not only of how well individuals do their jobs, but also of how well they collaborate to reach the overall goal.

There's a more interesting answer, however, which is that you can view an organization as a kind of thing that tries to be collectively intelligent. So you can view an organization as a form of collective intelligence. And just as we can measure individual people on how intelligent they are, one of the interesting research projects we're doing here at MIT, funded in part by Cisco, in fact, involves trying to measure the collective intelligence of groups and organizations. We believe that it will be possible to [use] some of the techniques and concepts used for measuring individual intelligence to measure the intelligence of a group.

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– Professor Thomas W. Malone

I think one of the most interesting ways of measuring the effectiveness of collaboration is to measure the [“intelligence” that results from] the collaboration technologies and techniques which a whole organization uses. That suggests, for instance, that we don’t just want to measure something like how much profit did they make? Or, how many widgets did they manufacture per month? We also want to be able to measure how responsive the organization was to changing situations. How quickly were they able to learn how to do things, not just do the old things, more efficiently? So I think that’s a subtle but increasingly important aspect that we can begin to measure [in regard to] how effective collaboration is.

ETL: Are people more productive when they work on projects about which they are passionate?

Thomas Malone: Yes. I think in many cases they are. We humans, when we’re excited about something, when we think of it as our thing rather than something somebody else is making us do, we’re often much more motivated. We’re more creative. And if the job is one where motivation and creativity help, that often means we’re more productive.



[People] can do the things they’re passionate about. But [to increase productivity, they need to] do those things in a way that also contributes to the overall goal of the organization. Without either of those things, without the right incentives or the right information, they can do things they’re passionate about, [but it’s] just everybody going off in different directions so you don’t get any kind of overall coherence, any overall benefit for the organization. But the technology, when used wisely with appropriate incentives and so on, can give us both passion and coherence.

ETL: What are the biggest barriers to effective collaboration?

Thomas Malone: Believe it or not, the biggest barriers to collaboration are not the technical ones. I think they’re the human ones. Two people who don’t want to talk to each other are still not going to want to talk to each other even if you give them great Voice over IP telephones, and great e-mail, and all kinds of other collaboration tools. I think it’s sort of a cliché, but people say that the soft stuff is the hard stuff. I think that is true in this field. I think that figuring out how to get the right kinds of human relationships, the right kinds of cultural expectations and, perhaps most importantly, the right kinds of incentives—those are the biggest barriers to effective collaboration.



ETL: Do you have any final thoughts about the future of collaboration and collective intelligence?

Thomas Malone: Yes. I have two. The first is the technologies we’ve been talking about today will allow us to collaborate, not just at the level of a single organization, or a few organizations, or even a few thousand individuals—they’ll also allow us to collaborate at global scale.

And I think one of the most interesting things we can do is to try to harness the collective intelligence of our whole species to figure out how to deal with important problems like global climate change, or poverty or other things.

Even more deeply than that, I think the choices that we as individuals make as we live our lives and do our work in the next few decades are likely to have an even bigger impact than many of us realize in creating the world that we live in and that our children and children’s children live in for the rest of this century. So if we want to make those choices wisely, I think we need to think much more deeply than we usually do about what it is we really want and what kind of world we want to create.

Next Steps

This interview was edited significantly due to space limitations. Please visit cisco.com/go/etl-maloneinterview to access videos in which Professor Malone goes into greater detail and offers some of his favorite examples of collaboration.

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